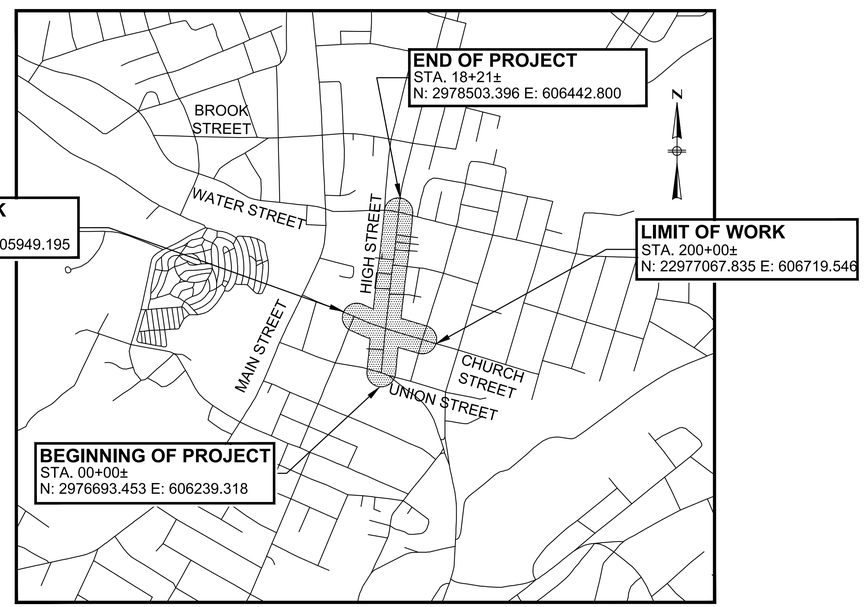
TOWN OF CLINTON, MASSACHUSETTS

STREETSCAPE IMPROVEMENTS
HIGH STREET & CHURCH STREET

JULY 2020

BOARD OF SELECTMEN
WILLIAM F. CONNOLLY, JR.
SEAN J. KERRIGAN
EDWARD J. DEVAULT
MICHAEL J. DZIOKONSKI
JOHN J. BOISONEAU

DEPARTMENT OF PUBLIC WORKS
CHRISTOPHER MCGOWN, SUPERINTENDENT



PROJECT LOCATION

LOCATION MAP

0 250 500 1,000
SCALE: 1" = 250'

LENGTH OF PROJECT = 1821± FEET HIGH ST
816± FEET CHURCH ST

INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET & INDEX
2	LEGEND & ABBREVIATIONS
3	KEY PLAN
4-9	CONSTRUCTION DETAILS
10-11	TYPICAL SECTIONS
12-17	CONSTRUCTION PLANS
18-23	CURB TIE AND BASELINE PLANS
24-26	PROFILE - HIGH STREET
27	PROFILE - CHURCH STREET WEST
28	PROFILE - CHURCH STREET EAST
29-34	GRADING PLANS
35-40	SIGN & PAVEMENT MARKING PLANS
41	TRAFFIC SIGN SUMMARY
42-44	TEMPORARY TRAFFIC CONTROL PLANS
45-49	LANDSCAPE PLANS
50-51	LANDSCAPE DETAIL AREAS
52-54	LANDSCAPE DETAILS
55-60	UTILITIES PLANS
L1-L7	LIGHTING PLANS
IR-1.0 - IR-2.1	IRRIGATION PLANS

THE MASSACHUSETTS DEPARTMENT OF TRANSPORTATION 2020 STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES , THE OCTOBER 2017 CONSTRUCTION STANDARD DETAILS, THE 2015 OVERHEAD SIGNAL STRUCTURE AND FOUNDATION STANDARD DRAWINGS, MASSDOT TRAFFIC MANAGEMENT PLANS AND DETAIL DRAWINGS, THE LATEST MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS WITH MASSACHUSETTS AMENDMENTS, THE 1990 STANDARD DRAWINGS FOR SIGNS AND SUPPORTS, THE 1968 STANDARD DRAWINGS FOR TRAFFIC SIGNALS AND HIGHWAY LIGHTING, AND THE LATEST EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK, WILL GOVERN.

PREPARED BY:
BETA
www.BETA-Inc.com

ISSUE DATE: JULY, 2020

REGISTERED PROFESSIONAL DATE

GENERAL SYMBOLS

EXISTING	PROPOSED	DESCRIPTION
JB	JB	JERSEY BARRIER
CB	CB	CATCH BASIN
		CATCH BASIN CURB INLET
FP	FP	FLAG POLE
GP	GP	GAS PUMP
MB	MB	MAIL BOX
		POST SQUARE
		POST CIRCULAR
WELL	WELL	WELL
EHH	EHH	ELECTRIC HANDHOLE
		FENCE GATE POST
GG	GG	GAS GATE
BHL #	BHL #	BORING HOLE
MW #	MW #	MONITORING WELL
TP #	TP #	TEST PIT
		HYDRANT
		LIGHT POLE
CO.BD.		COUNTY BOUND
		GPS POINT
		CABLE MANHOLE
		DRAINAGE MANHOLE
		ELECTRIC MANHOLE
		GAS MANHOLE
		MISC MANHOLE
		SEWER MANHOLE
		TELEPHONE MANHOLE
		WATER MANHOLE
MHB	MHB	MASSACHUSETTS HIGHWAY BOUND
MON		MONUMENT
SB		STONE BOUND
TB		TOWN OR CITY BOUND
		TRAVERSE OR TRIANGULATION STATION
TPL or GUY	TPL or GUY	TROLLEY POLE OR GUY POLE
HTP		TRANSMISSION POLE
UFB	UFB	UTILITY POLE W/ FIREBOX
UPDL	UPDL	UTILITY POLE WITH DOUBLE LIGHT
ULT	ULT	UTILITY POLE W / 1 LIGHT
UPL	UPL	UTILITY POLE
		BUSH
SIZE & TYPE		TREE
		STUMP
		SWAMP / MARSH
WG	WG	WATER GATE
PM	PM	PARKING METER
		OVERHEAD CABLE/WIRE
		CURBING
100 99		CONTOURS (ON-THE-GROUND SURVEY DATA)
100 99		CONTOURS (PHOTOGRAMMETRIC DATA)
		UNDERGROUND DRAIN PIPE (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND ELECTRIC DUCT (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND GAS MAIN (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND SEWER MAIN (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND TELEPHONE DUCT (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND WATER MAIN (DOUBLE LINE 24 INCH AND OVER)
		BALANCED STONE WALL
		GUARD RAIL - STEEL POSTS
		GUARD RAIL - WOOD POSTS
		CHAIN LINK OR METAL FENCE
		WOOD FENCE
		HAY BALES/SILT FENCE
		TREE LINE
		SAWCUT LINE
		TOP OR BOTTOM OF SLOPE
		LIMIT OF EDGE OF PAVEMENT OR COLD PLANE AND OVERLAY
		BANK OF RIVER OR STREAM
		BORDER OF WETLAND
		100 FT WETLAND BUFFER
		200 FT RIVERFRONT BUFFER
		STATE HIGHWAY LAYOUT
		TOWN OR CITY LAYOUT
		COUNTY LAYOUT
		RAILROAD SIDELINE
		TOWN OR CITY BOUNDARY LINE
		PROPERTY LINE OR APPROXIMATE PROPERTY LINE
		EASEMENT

PAVEMENT MARKINGS AND SIGNING SYMBOLS

	PROPOSED
CW	CROSSWALK, 2 - 12" WHITE LINES (8' WIDTH)
SL	STOP LINE - 12" WHITE LINE 4' BEHIND CW (TYP.)
SWL	SOLID WHITE LINE - 6"
SWCHL	SOLID WHITE CHANNELIZING LINES - 12" (SPACING NOTED)
SWGL	SOLID WHITE GORE LINE 6" @ 45°, (SPACING NOTED)
SWPL	SOLID WHITE PARKING LINE - 6"
BWL	BROKEN WHITE LINE - 6"
DWLEx	DOTTED WHITE LANE EXTENSION LINE - 6" (2' LINE & 6' GAP)
DYLEx	DOTTED YELLOW LANE EXTENSION LINE - 6" (2' LINE & 6' GAP)
BYL	BROKEN YELLOW LINE - 6"
DBYL	DOUBLE YELLOW LINE - 2 - 6" LINES
SYL	SOLID YELLOW LINE - 6"
SYGL	SOLID YELLOW GORE LINE 12" @ 45°, (SPACING NOTED)
SCHOOL	SCHOOL ZONE - WHITE
	HANDICAP SYMBOL - WHITE
	PAVEMENT ARROW - WHITE
ONLY	LEGEND "ONLY" - WHITE

TRAFFIC SIGNAL SYMBOLS

EXISTING	PROPOSED	
		CONTROL CABINET GROUND MOUNTED WITH FOUNDATION
		CONTROL CABINET POLE MOUNTED
	Ø2	CONTROLLER PHASE
	MA-1	MAST ARM, SHAFT & BASE (ARM LENGTH AS NOTED)
		VEHICULAR SIGNAL HEAD (ALPHA-NUMERIC DESIGNATION AS NOTED)
		VEHICULAR SIGNAL HEAD, OPTICALLY PROGRAMMED
		VEHICULAR SIGNAL HEAD (REMOVED & RESET)
		FLASHING BEACON
		PEDESTRIAN SIGNAL HEAD
		PEDESTRIAN SIGNAL HEAD, OPTICALLY PROGRAMMED
HH		PULL BOX 12"x12" OR HANDHOLE
		LOOP DETECTOR
		PEDESTRIAN PUSH BUTTON, SIGN (DIRECTIONAL ARROW AS SHOWN) AND SADDLE
		PRE-EMPTION DETECTOR
		PRE-EMPTION CONFIRMATION STROBE
		SIGNAL CONDUIT (SINGLE RUN)
		SIGNAL CONDUIT (DOUBLE RUN)
		SIGNAL POST & BASE
M	M	MAGNETIC DETECTOR
		SCHOOL ZONE SPEED LIMIT SIGN
		MICROWAVE OR ULTRASONIC DETECTOR
		VIDEO DETECTION CAMERA
		VIDEO DETECTION ZONE

TRAFFIC SIGNAL SYSTEMS

R	STEADY CIRCULAR RED
Y	STEADY CIRCULAR AMBER
G	STEADY CIRCULAR GREEN
FR	FLASHING CIRCULAR RED
FY	FLASHING CIRCULAR AMBER
←FY	FLASHING YELLOW LEFT ARROW
R→	STEADY RED RIGHT ARROW
Y→	STEADY AMBER RIGHT ARROW
G→	STEADY GREEN RIGHT ARROW
←R	STEADY RED LEFT ARROW
←Y	STEADY AMBER LEFT ARROW
←G	STEADY GREEN LEFT ARROW
W	STEADY WALK (PERSON WALKING) - LUNAR WHITE
DW	STEADY DON'T WALK (HAND) - PORTLAND ORANGE
FDW	FLASHING DON'T WALK (FLASHING HAND) - PORTLAND ORANGE

ABBREVIATIONS

GENERAL

AADT	ANNUAL AVERAGE DAILY TRAFFIC
ABAN	ABANDON
ADJ	ADJUST
APPROX.	APPROXIMATE
A.C.	ASPHALT CONCRETE
ACCM PIPE	ASPHALT COATED CORRUGATED METAL PIPE
BIT.	BITUMINOUS
BC	BOTTOM OF CURB
BD.	BOUND
BL	BASELINE
BLDG	BUILDING
BM	BENCHMARK
BO	BY OTHERS
BOS	BOTTOM OF SLOPE
BR.	BRIDGE
CB	CATCH BASIN
CBCI	CATCH BASIN WITH CURB INLET
CC	CEMENT CONCRETE
CCM	CEMENT CONCRETE MASONRY
CEM	CEMENT
CI	CURB INLET
CIP	CAST IRON PIPE
CLF	CHAIN LINK FENCE
CL	CENTERLINE
CMP	CORRUGATED METAL PIPE
CSP	CORRUGATED STEEL PIPE
CO.	COUNTY
CONC	CONCRETE
CONT	CONTINUOUS
CONST	CONSTRUCTION
CR GR	CROWN GRADE
DHV	DESIGN HOURLY VOLUME
DI	DROP INLET
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
DW	STEADY DON'T WALK - PORTLAND ORANGE
DWY	DRIVEWAY
ELEV (or EL.)	ELEVATION
EMB	EMBANKMENT
EOP	EDGE OF PAVEMENT
EXIST (or EX)	EXISTING
EXC	EXCAVATION
F&C	FRAME AND COVER
F&G	FRAME AND GRATE
FDN.	FOUNDATION
FLDSTN	FIELDSTONE
GAR	GARAGE
GD	GROUND
GG	GAS GATE
GI	GUTTER INLET
GIP	GALVANIZED IRON PIPE
GRAN	GRANITE
GRAV	GRAVEL
GRD	GUARD
HDW	HEADWALL
HMA	HOT MIX ASPHALT
HOR	HORIZONTAL
HYD	HYDRANT
INV	INVERT
JCT	JUNCTION
L	LENGTH OF CURVE
LB	LEACH BASIN
LP	LIGHT POLE
LT	LEFT
MAX	MAXIMUM
MB	MAILBOX
MH	MANHOLE
MHB	MASSACHUSETTS HIGHWAY BOUND
MIN	MINIMUM
NIC	NOT IN CONTRACT
NO.	NUMBER
O.C.	ON CENTER
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE
P.G.L.	PROFILE GRADE LINE
PI	POINT OF INTERSECTION
POC	POINT ON CURVE
POT	POINT ON TANGENT
PRC	POINT OF REVERSE CURVATURE
PROJ	PROJECT

ABBREVIATIONS (cont.)

GENERAL

PROP	PROPOSED
PSB	PLANTABLE SOIL BORROW
PT	POINT OF TANGENCY
PVC	POINT OF VERTICAL CURVATURE
PVI	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENCY
PVMT	PAVEMENT
PWW	PAVED WATER WAY
R	RADIUS OF CURVATURE
R&D	REMOVE AND DISPOSE
RCP	REINFORCED CONCRETE PIPE
RD	ROAD
RDWY	ROADWAY
REM	REMOVE
RET	RETAIN
RET WALL	RETAINING WALL
ROW	RIGHT OF WAY
RR	RAILROAD
R&R	REMOVE AND RESET
R&S	REMOVE AND STACK
RT	RIGHT
SB	STONE BOUND
SHLD	SHOULDER
S.I.P.	STAY-IN-PLACE
SMH	SEWER MANHOLE
ST	STREET
STA	STATION
SSD	STOPPING SIGHT DISTANCE
SHLO	STATE HIGHWAY LAYOUT LINE
SW	SIDEWALK
T	TANGENT DISTANCE OF CURVE/TRUCK %
T&B	TOP AND BOTTOM
TAN	TANGENT
TEMP	TEMPORARY
TC	TOP OF CURB
TOS	TOP OF SLOPE
TYP	TYPICAL
UP	UTILITY POLE
VAR	VARIES
VERT	VERTICAL
VC	VERTICAL CURVE
WCR	WHEEL CHAIR RAMP
WG	WATER GATE
WIP	WROUGHT IRON PIPE
WM	WATER METER/WATER MAIN
X-SECT	CROSS SECTION

TRAFFIC SIGNAL

CAB.	CABINET
CCVE	CLOSED CIRCUIT VIDEO EQUIPMENT
DW	STEADY DON'T WALK
FDW	FLASHING DON'T WALK
FR	FLASHING CIRCULAR RED
FRL	FLASHING RED LEFT ARROW
FRR	FLASHING RED RIGHT ARROW
FY	FLASHING CIRCULAR AMBER
FYL	FLASHING AMBER LEFT ARROW
FYR	FLASHING AMBER RIGHT ARROW
G	STEADY CIRCULAR GREEN
GL	STEADY GREEN LEFT ARROW
GR	STEADY GREEN RIGHT ARROW
GSL	STEADY GREEN SLASH LEFT ARROW
GSR	STEADY GREEN SLASH RIGHT ARROW
GV	STEADY GREEN VERTICAL ARROW
OL	OVERLAP
PED	PEDESTRIAN
PTZ	PAN, TILE, ZOOM
R	STEADY CIRCULAR RED
RL	STEADY RED LEFT ARROW
RR	STEADY RED RIGHT ARROW
TR SIG	TRAFFIC SIGNAL
TSC	TRAFFIC SIGNAL CONDUIT
W	STEADY WALK
Y	STEADY CIRCULAR AMBER
YL	STEADY AMBER LEFT ARROW

NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY:
DESIGNED BY:
CHECKED BY:

REGISTERED PROFESSIONAL: For Review Only

PREPARED BY: BETA www.BETA-Inc.com

SUBCONSULTANT:

SCALE: NONE

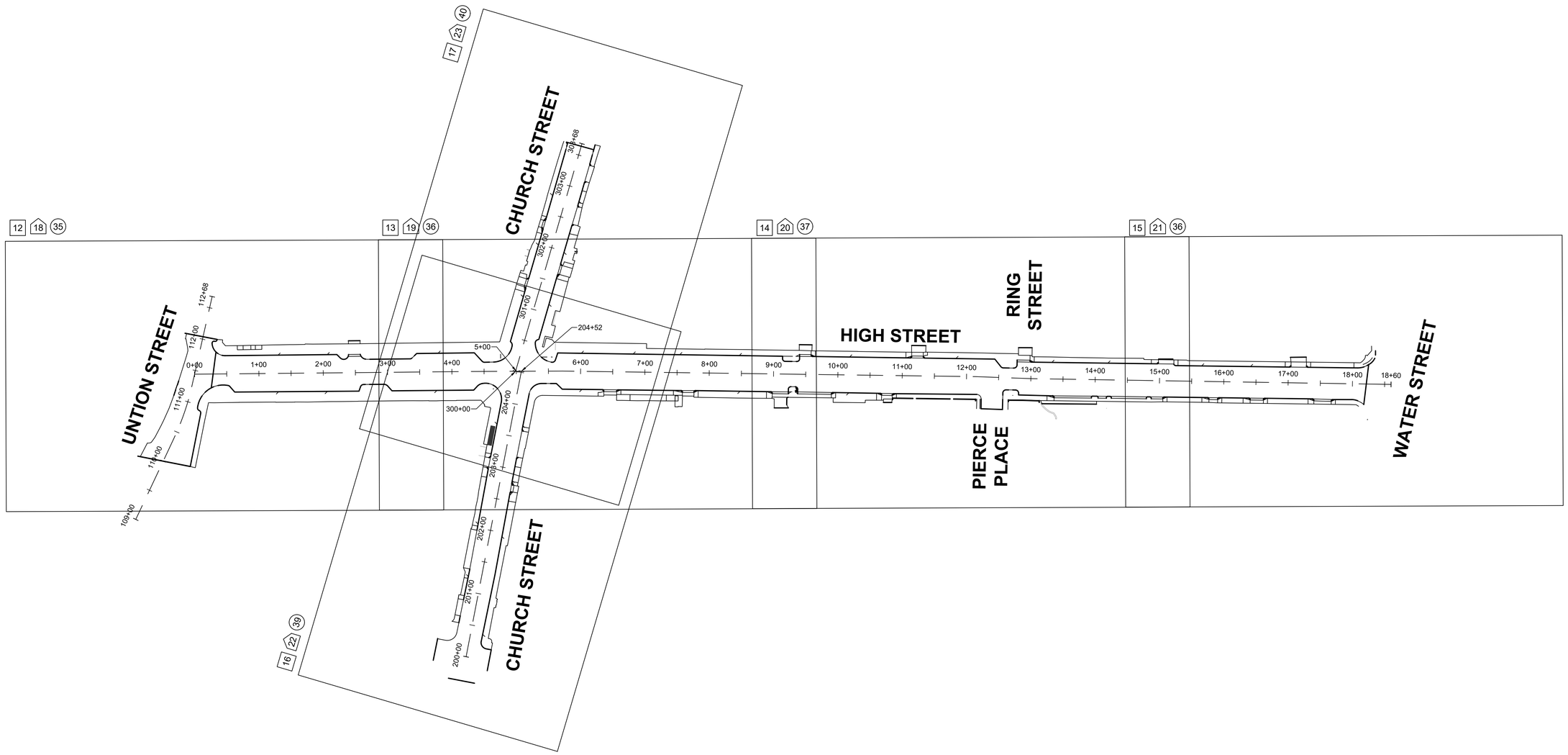
UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE: HIGH STREET STREETSCAPE
CLINTON, MA

LEGEND & ABBREVIATIONS

BETA JOB NO. 6182
ISSUE DATE 7/16/2020
SHEET NO. 2 OF 60

O:\6100S\6182 - CLINTON - HIGH ST STREETSCAPE\DRAWING FILES\PLANSET\6182 LEGEND.DWG (BETA STB BW.STB)



SHEET NUMBER LEGEND

- XX CONSTRUCTION PLAN
- XX CURB TIE & GRADING PLAN
- XX SIGN & PAVEMENT MARKING PLAN

NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: NJM
DESIGNED BY: NJM
CHECKED BY: TJL

REGISTERED PROFESSIONAL: For Review Only

PREPARED BY: BETA www.BETA-Inc.com

SUBCONSULTANT

SCALE: 80 0 80 160 — SCALE IN FEET: 1"=80'

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE: HIGH STREET STREETSCAPE
CLINTON, MA

KEY PLAN

BETA JOB NO. 6182
ISSUE DATE 7/16/2020
SHEET NO. 3 OF 60

O:\6100\S\6182 - CLINTON - HIGH ST STREETSCAPE\DRAWING FILES\PLANSET\6182 KEY PLAN.DWG (BETA STB BW.STB)

GENERAL NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION LAYOUT SURVEYS. THE CONTRACTOR SHALL EMPLOY A COMPETENT REGISTERED PROFESSIONAL SURVEYOR, REGISTERED IN THE COMMONWEALTH OF MASSACHUSETTS, TO COMPLETE ALL CONSTRUCTION LAYOUT.

2. THE ACCURACY AND COMPLETENESS OF ALL UNDERGROUND AND OVERHEAD UTILITIES AS SHOWN ON THE PLANS IS NOT GUARANTEED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE EXACT LOCATION, SIZE, TYPE, DEPTH, ETC. OF ALL UNDERGROUND UTILITIES THAT MAY BE AFFECTED BY THE WORK. ALL TOWN-OWNED UTILITY STRUCTURES, WITHIN AREAS AFFECTED BY THE WORK, SHALL BE ADJUSTED OR REMODELED TO NEW LINE AND GRADE AS DIRECTED BY THE ENGINEER AND AS SHOWN ON THE PLANS. ANY UTILITY AND/GUY POLES, WITHIN AREAS AFFECTED BY THE WORK, SHALL BE REMOVED AND RESET BY THE RESPECTIVE UTILITY COMPANY. ALTERATIONS TO UTILITIES AND UTILITY STRUCTURES NOT OWNED BY THE TOWN SHALL BE MADE BY THE RESPECTIVE UTILITY OWNERS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE WORK IN ADVANCE WITH THOSE UTILITY OWNERS.

3. ALL EXISTING DRAINAGE STRUCTURES SHALL BE RETAINED UNLESS OTHERWISE NOTED ON THE PLANS.

4. THE CONTRACTOR SHALL VERIFY EXISTING GRADES AT CRITICAL POINTS AND PROPOSED GRADES. IF ANY ADJUSTMENT IS REQUIRED DUE TO DIFFERENT GRADES FOUND IN THE FIELD, THE CONTRACTOR SHALL NOTIFY AND OBTAIN THE APPROVAL OF THE ENGINEER PRIOR TO PERFORMING THE WORK.

5. EROSION CONTROL DEVICES SHALL BE INSTALLED PRIOR TO THE START OF CONSTRUCTION, AND SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION AND SHALL BE REMOVED UPON COMPLETION OF ALL THE WORK WHEN ALL DISTURBED AREAS ARE STABILIZED, TO THE SATISFACTION OF THE ENGINEER.

6. ALL PROPOSED DRAINAGE STRUCTURES OR CASTINGS SHALL BE AS PER TOWN OF CLINTON STANDARDS UNLESS OTHERWISE NOTED.

7. WHEN A PROPOSED CATCH BASIN INTERFERES WITH ANY OTHER UNDERGROUND UTILITY, A GUTTER INLET SHALL BE USED, AS DIRECTED BY THE ENGINEER. ANY CHANGES TO DRAINAGE DESIGN DUE TO FIELD CONDITIONS SHALL BE VERIFIED AND APPROVED BY THE ENGINEER.

8. ANY EXISTING GRANITE CURB THAT CAN BE RE-USED SHALL BE R&R AS DIRECTED BY THE ENGINEER. NEW GRANITE CURB SHALL NOT BE INTERLAYED WITH R&R GRANITE CURB. IF EXISTING CATCH BASINS ARE TO REMAIN IN PLACE WITH GRANITE CURB BEHIND THEM, THE CONTRACTOR SHALL REPLACE THE EXISTING CURB WITH A CURB INLET SECTION, AS DIRECTED BY THE ENGINEER.

9. ALL TREES WITHIN THE LIMITS OF WORK SHALL BE RETAINED UNLESS OTHERWISE NOTED ON THE PLANS. HOWEVER, SOME TREES, IN CRITICAL LOCATIONS, ARE NOTED TO BE RETAINED, FOR CLARITY. THE ENGINEER SHALL OBTAIN THE APPROVAL OF THE TOWN TREE WARDEN OR HIS EQUIVALENT OFFICER BEFORE ANY TREE IS REMOVED.

10. TREES AND FOLIAGE TO BE RETAINED, WHICH RESTRICT SIGHT DISTANCE OR RESTRICT HORIZONTAL OR VERTICAL CLEARANCES SHALL BE TRIMMED AS DIRECTED BY THE ENGINEER.

11. UNLESS OTHERWISE NOTED, ALL EXISTING WALLS WITHIN THE PROJECT LIMITS SHALL BE RETAINED.

12. WHEN WORKING NEXT TO EXISTING TREES, WALLS, BUILDINGS, VAULTS OR FENCES, THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION NOT TO DISTURB THE EXISTING WALLS, TREES BUILDINGS, VAULTS OR FENCES. IF THE CONTRACTOR DOES DAMAGE ANY EXISTING TREES, WALLS, BUILDINGS, VAULTS OR FENCES AS A RESULT OF THE CONSTRUCTION PROCESS, IT SHALL BE HIS/HER RESPONSIBILITY (THE CONTRACTOR) TO REPAIR ALL DAMAGES AS DIRECTED BY THE ENGINEER. ALL WORK ASSOCIATED WITH THE REPAIR OR REPLACEMENT OF EXISTING TREES, WALLS OR FENCES SHALL BE CONSIDERED AS INCLUDED IN THE BID PRICE AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED THEREFORE.

13. IN AREAS OF NEW SIDEWALK, NEW EDGE OF PAVEMENT OR CURB WITHOUT SIDEWALK, OR ANY WORK ADJACENT TO EXISTING GRASS AREAS, LOAM AND SEED SHALL BE PROVIDED AS NECESSARY TO REPAIR ANY DAMAGE TO THE GRADE CAUSED BY THE CONSTRUCTION PROCESS, AS DIRECTED BY THE ENGINEER.

14. ALL AREAS OUTSIDE THE LIMITS OF THE PROPOSED WORK THAT HAVE BEEN DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE, TO THE SATISFACTION OF THE ENGINEER AND THE PROPERTY OWNER.

15. JOINTS BETWEEN NEW HOT MIX ASPHALT (HMA) ROADWAY PAVEMENT AND SAW-CUT EXISTING PAVEMENT SHALL BE SEALED WITH BITUMEN AND BACKSANDED. SAWCUTTING WILL BE PERFORMED BY MECHANICAL MEANS.

16. MAILBOXES, FENCES, ETC., THAT NEED TO BE RELOCATED SHALL BE REMOVED AND RESET (R&R) IN THEIR NEW LOCATIONS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. THE OWNER SHALL BE CONSULTED PRIOR TO THE WORK. ALL FENCES AND HEDGES SHALL BE RETAINED AS NOTED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

17. EXISTING ON-THE-GROUND SURVEY BY LIGHTHOUSE LAND SURVEYING, LLC, 75 KIMBERLY ROAD, TAUNTON, MA, IN AUGUST AND SEPTEMBER 2019.

HORIZONTAL DATUM: MASSACHUSETTS STATE PLANE COORDINATE SYSTEM REFERENCED TO NAD 83

VERTICAL DATAUM: NAVD 88

18. PROPOSED BOUNDS, AND BOUNDS REMOVED AND RESET SHALL BE SET FLUSH WITH THE ADJACENT WALK SURFACE.

WHEELCHAIR RAMP NOTES:

1. ALL WHEELCHAIR RAMPS SHALL CONFORM TO THE REQUIREMENTS OF THE ARCHITECTURAL ACCESS BOARD (A.A.B.), THE AMERICANS WITH DISABILITIES ACR (A.D.A.) AND MASSDOT HIGHWAY DIVISION.

2. ALL PROPOSED CURB FOR WHEELCHAIR RAMP TRANSITIONS SHALL BE CUT AND TRANSITIONED AS NECESSARY TO PROVIDE THE CORRECT TRANSITION LENGTHS FOR EACH WHEELCHAIR RAMP, AS SHOWN ON THE WHEELCHAIR RAMP DETAILS OR AS DIRECTED BY THE ENGINEER. ANY EXISTING CURB INLETS, IN AREAS OF NEW WHEELCHAIR RAMP TRANSITIONS, SHALL BE REMOVED AND REPLACED WITH APPROPRIATE TRANSITION CURB, AS DIRECTED BY THE ENGINEER.

3. IN NO CASE, EXCEPT MAXIMUM LENGTH HIGH SIDE TRANSITIONS, SHALL ANY TRANSITION SLOPE OF ANY WHEELCHAIR RAMP EXCEED 7.5%. PROPOSED WHEELCHAIR RAMP SLOPES, ESPECIALLY HIGH SIDE TRANSITIONS, SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO THE POURING OF CONCRETE, AND ADJUSTED, IF NECESSARY, AT THE DIRECTION OF THE ENGINEER.

4. IN INSTANCES WHERE AN EXISTING MANHOLE, HANDHOLE OR OTHER "SURFACE" TYPE STRUCTURE THAT CANNOT BE REMOVED OR RESET, IS WITHIN THE WHEELCHAIR RAMP PATH OF TRAVEL, THE STRUCTURE SHALL BE CAREFULLY ADJUSTED SUCH THAT THE TOPMOST SURFACES OF THE STRUCTURE COVER SHALL BE FLUSH WITH THE RAMP SURFACE AND SHALL MATCH THE SLOPE OF THE NEW WHEELCHAIR RAMP EXACTLY, AS DIRECTED BY THE ENGINEER.

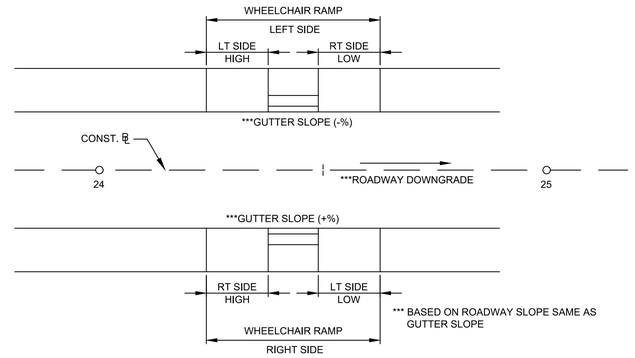
5. ANY UTILITY STRUCTURES WITHIN THE TRANSITIONS OF THE WHEELCHAIR RAMP TRANSITIONS SHALL ALSO BE ADJUSTED TO THE PROPOSED GRADE AND THE SLOPE OF THE SURFACE OF THE PROPOSED TRANSITION PANEL OR PANELS.

6. THE LOCATION OF PROPOSED WHEELCHAIR RAMPS ARE SHOWN ON THE CONSTRUCTION PLANS AND THE WHEELCHAIR RAMP DATA SCHEDULE. EXACT LOCATIONS MAY BE ADJUSTED, IF NECESSARY, BY THE ENGINEER IN THE FIELD.

7. DETECTABLE WARNING PANELS SHALL BE INSTALLED ON ALL WHEELCHAIR RAMPS IN ACCORDANCE WITH MASSDOT CONSTRUCTION STANDARD E 107.6.5 (2017) AND WILL BE PAID FOR UNDER ITEM 701.2.

8. PROPOSED WHEELCHAIR RAMP SLOPES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO THE POURING OF CONCRETE, AND ADJUSTED, IF NECESSARY, TO CONFORM TO THE LATEST STANDARDS, AS DIRECTED BY THE ENGINEER.

9. L: LENGTH OF WCR AND DWY TRANSITION TO BE VERIFIED IN FIELD BY CONTRACTOR. SEE TABLE 1 ON THIS SHEET FOR TRANSITION LENGTH REFERENCES. ADA COMPLIANCE SHALL BE MET IN ALL INSTANCES.



GUTTER SLOPE DIAGRAM

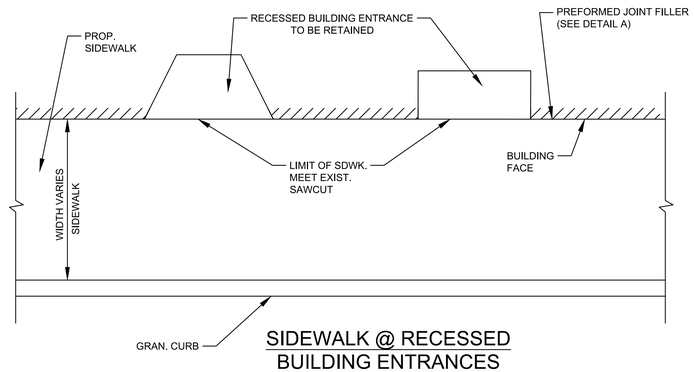
NOT TO SCALE

TABLE I	
PROFILE GRADE %	HIGH SIDE TRANSITION LENGTH (L) FOR 7.5% DESIGN SLOPE (FEET)
0	6'-6"
>0-1	7'-8"
>1-2	9'-0"
>2-3	11'-0"
>3-4	14'-0"
>4	15'-0" MAX.

WHEELCHAIR RAMP AND DRIVEWAY HIGH SIDE TRANSITION LENGTHS

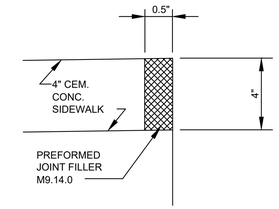
FIGURES ARE BASED ON A DESIGN SLOPE OF 7.5% AND A REVEAL OF 6". TRANSITION LENGTHS TO BE ADJUSTED ACCORDINGLY FOR CURB REVEALS OTHER THAN 6"

NOTE:
SPECIFIED TRANSITION LENGTHS FOR APPLICABLE WHEELCHAIR RAMPS CAN APPLY TO BOTH LEFT AND RIGHT SIDES.



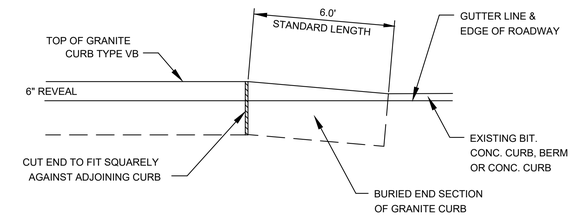
SIDEWALK @ RECESSED BUILDING ENTRANCES

NOT TO SCALE



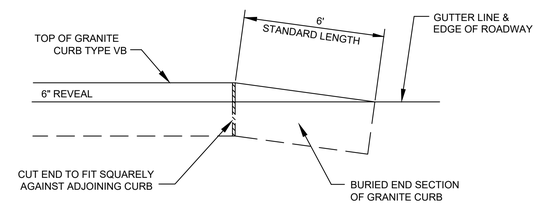
DETAIL A: PREFORMED JOINT FILLER

NOT TO SCALE



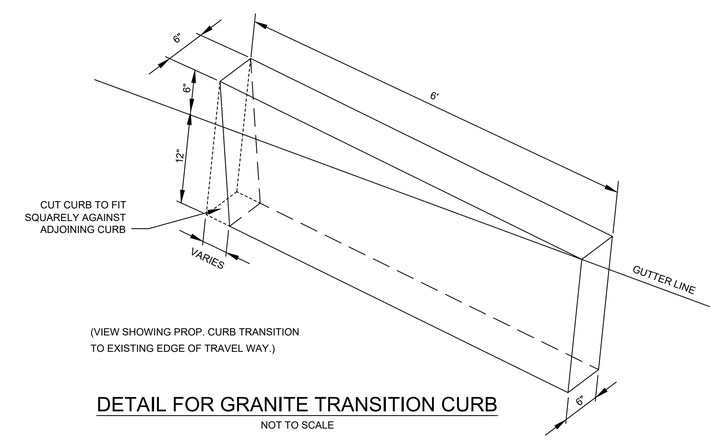
DETAIL FOR TRANSITION CURB
TRANSITION CURB - PROP. CURB TO EXISTING CURB

NOT TO SCALE



DETAIL FOR TRANSITION CURB
PROP. CURB TO EXISTING EDGE OF TRAVEL WAY

NOT TO SCALE



(VIEW SHOWING PROP. CURB TRANSITION TO EXISTING EDGE OF TRAVEL WAY.)

DETAIL FOR GRANITE TRANSITION CURB

NOT TO SCALE

* TOLERANCE FOR CONSTRUCTION ±0.5%

NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: NJM
DESIGNED BY: CJT
CHECKED BY: TJL

REGISTERED PROFESSIONAL

PREPARED BY: BETA www.BETA-Inc.com

SUBCONSULTANT

SCALE: AS SHOWN

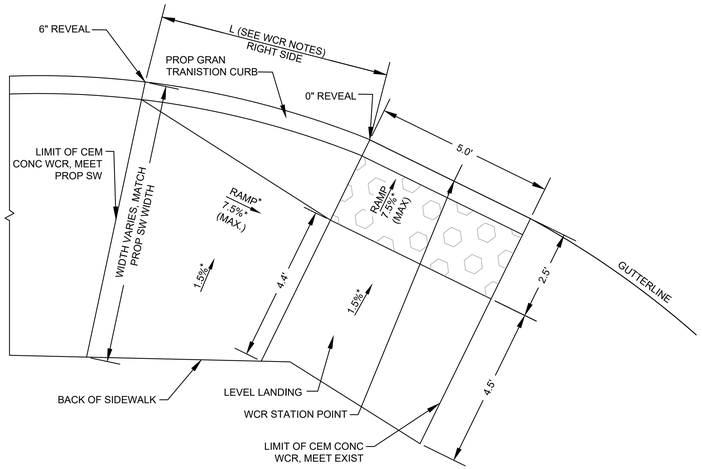
UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE: **HIGH STREET STREETSCAPE CLINTON, MA**

CONSTRUCTION DETAILS

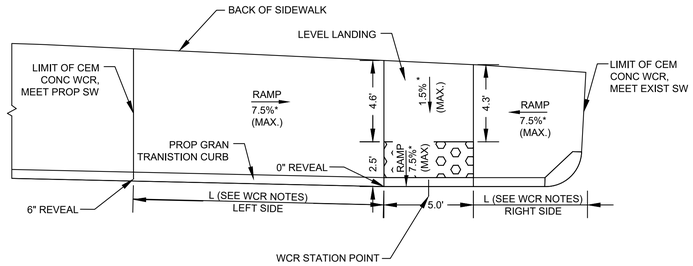
BETA JOB NO. 6182
ISSUE DATE 7/16/2020
SHEET NO. 4 OF 60

O:\6100\S\6182 - CLINTON - HIGH ST STREETSCAPE\DRAWING FILES\PLANSET\6182 CONSTRUCTION DETAILS.DWG (BETA STB BW.STB)



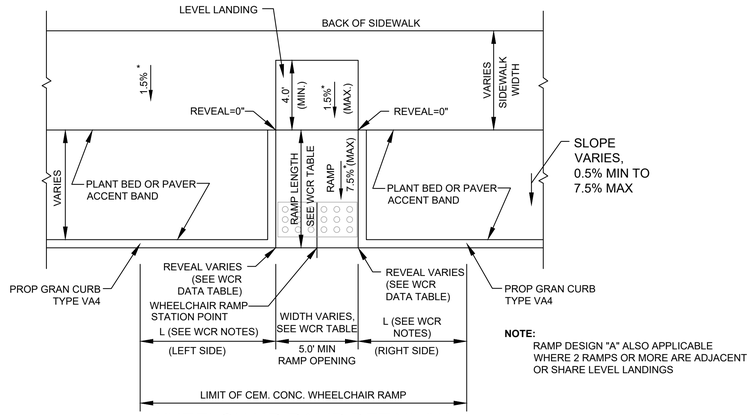
WHEELCHAIR RAMP #25 STA 18+11.0' RT

NOT TO SCALE



WHEELCHAIR RAMP #29 STA 303+55.40' LT (CHURCH ST WEST)

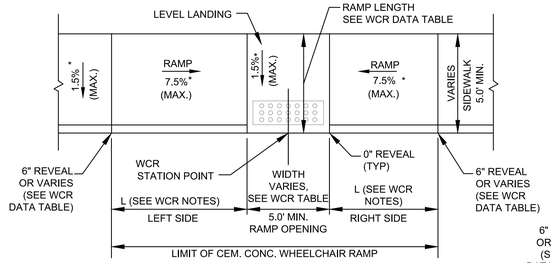
NOT TO SCALE



NOTE:
RAMP DESIGN "A" ALSO APPLICABLE WHERE 2 RAMPS OR MORE ARE ADJACENT OR SHARE LEVEL LANDINGS

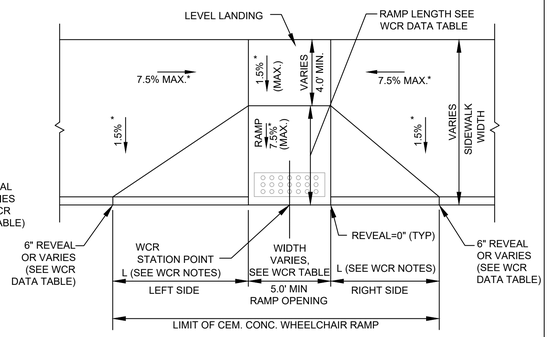
WHEELCHAIR RAMP DETAIL "A"

NOT TO SCALE



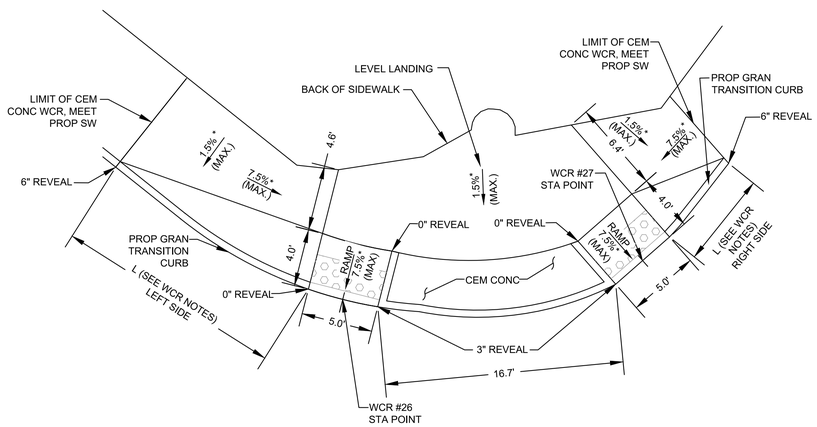
WHEELCHAIR RAMP DETAIL TYPE "B"

NOT TO SCALE



WHEELCHAIR RAMP TYPE "C"

NOT TO SCALE

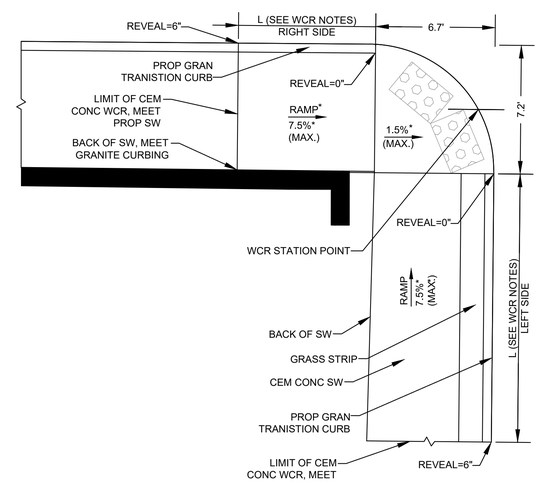


WHEELCHAIR RAMP #26 STA 18+20.0' LT
WHEELCHAIR RAMP # 27 STA 18+34.6' LT

NOT TO SCALE

WHEELCHAIR RAMP DATA

WCR NO.	ALIGNMENT	STATION AND OFFSET	OPENING WIDTH AT GUTTER	RAMP LENGTH	CURB REVEAL AT RAMP / TRANSITION LIMITS (IN)		TYPE
					LT	RT	
1	UNION STREET	111+18.0' 22.8' LT	8.1'	8.3' - 8.4'	6" R	6" R	A
2	UNION STREET	111+17.0' 20.4' RT	6.5'	8.0' - 11.4'	6" R	6" R	A
3	HIGH STREET	00+32.8' 18.8' RT	6.5'	8.0' - 11.2'	6" R	6" R	A
4	HIGH STREET	00+39.8' 30.0' LT	6.5'	8.0' - 9.8'	6" R	6" R	A
INTENTIONALLY LEFT BLANK							
6	HIGH STREET	02+68.5' 18.5' RT	5.5'	5.5'	4" R	4" R	A
7	HIGH STREET	02+69.4' 20.6' LT	6.5'	5.4' - 5.5'	4" R	4" R	A
8	HIGH STREET	03+39.9' 23.4' LT	5.5'	5.5'	6" R	6" R	A
9	HIGH STREET	04+61.7' 14.5' LT	6.5'	6.0'	4" R	4" R	A
10	HIGH STREET	04+60.6' 19.8' RT	6.5'	6.0' - 8.3'	4" R	4" R	A
11	CHURCH ST (WEST)	300+18.8' 19.5' LT	6.5'	6.0' - 12.6'	4" R	6" R	A
12	CHURCH ST (EAST)	204+15.3' 28.1' LT	6.5'	6.0' - 10.0'	4" R	6" R	A
13	CHURCH ST (EAST)	204+23.2' 18.9' RT	6.5'	7.0' - 9.7'	6" R	6" R	A
14	CHURCH ST (WEST)	300+34.7' 28.5' LT	6.5'	6.0' - 11.1'	4" R	4" R	A
15	HIGH STREET	05+51.2' 14.7' LT	6.5'	6.0' - 8.0'	4" R	4" R	A
16	HIGH STREET	05+49.9' 19.2' RT	6.5'	7.0'	5" R	5" R	A
17	HIGH STREET	05+62.7' 22.5' LT	5.5'	6.0'	4" R	4" R	A
INTENTIONALLY LEFT BLANK							
19	HIGH STREET	09+30.7' 19.5' RT	6.5'	8.0'	4" R	4" R	A
20	HIGH STREET	09+31.7' 19.8' LT	6.5'	8.0'	4" R	4" R	A
21	HIGH STREET	12+22.9' 31.0' RT	SEE DETAIL	SEE DETAIL	SEE DETAIL	SEE DETAIL	SEE DETAIL
22	HIGH STREET	12+57.4' 30.6' RT	6.5'	8.3' - 8.7'	6" R	6" R	A
23	HIGH STREET	12+68.9' 15.3 LT	6.5'	8.5'	4" R	4" R	A
24	HIGH STREET	12+69.2' 18.7' RT	6.5'	8.5'	6" R	6" R	A
25	HIGH STREET	18+11.0' 27.4' RT	SEE DETAIL	SEE DETAIL	SEE DETAIL	SEE DETAIL	SEE DETAIL
26	HIGH STREET	18+20.0' 27.5' LT	SEE DETAIL	SEE DETAIL	SEE DETAIL	SEE DETAIL	SEE DETAIL
27	HIGH STREET	18+34.6' 42.7' LT	SEE DETAIL	SEE DETAIL	SEE DETAIL	SEE DETAIL	SEE DETAIL
28	CHURCH ST (EAST)	200+21.0' 21.4' RT	5.0'	7.0'	6" R	6" R	C
29	CHURCH ST (WEST)	303+55.4' 21.5' LT	SEE DETAIL	SEE DETAIL	SEE DETAIL	SEE DETAIL	SEE DETAIL
30	CHURCH ST (WEST)	303+58.9' 20.3' RT	5.0'	7.7' - 7.9'	6" R	4" R	B



WHEELCHAIR RAMP STA 12+22.9' RT

NOT TO SCALE

* TOLERANCE FOR CONSTRUCTION ±0.5%

NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: NJM
DESIGNED BY: CJT
CHECKED BY: TJL

REGISTERED PROFESSIONAL

PREPARED BY: BETA www.BETA-Inc.com

SUBCONSULTANT

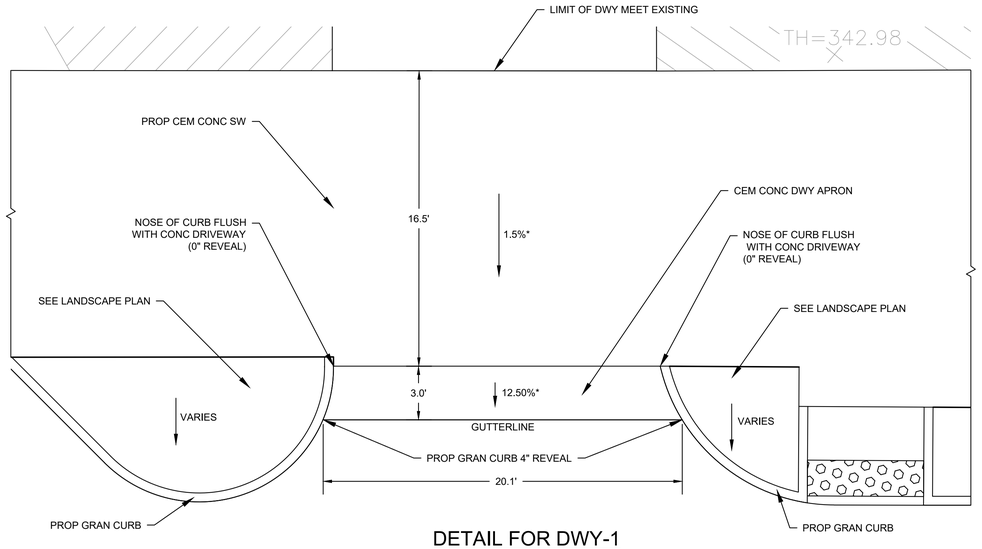
SCALE: AS SHOWN
UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE: **HIGH STREET STREETSCAPE CLINTON, MA**

CONSTRUCTION DETAILS

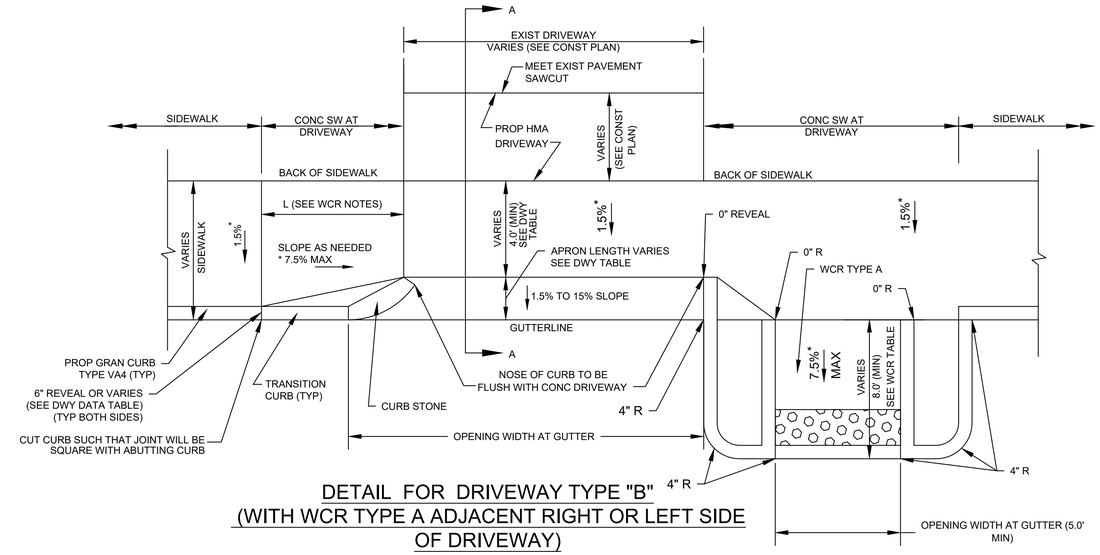
BETA JOB NO. 6182
ISSUE DATE 7/16/2020
SHEET NO. 5 OF 60

O:\61005\6182 - CLINTON - HIGH ST STREETSCAPE\DRAWING FILES\PLANSET\6182 CONSTRUCTION DETAILS.DWG (BETA STB BW.STB)



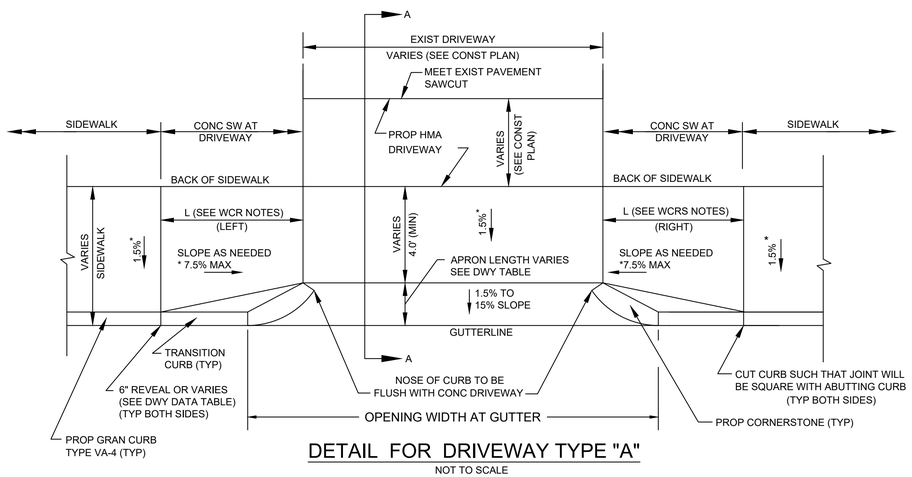
DETAIL FOR DWY-1

NOT TO SCALE



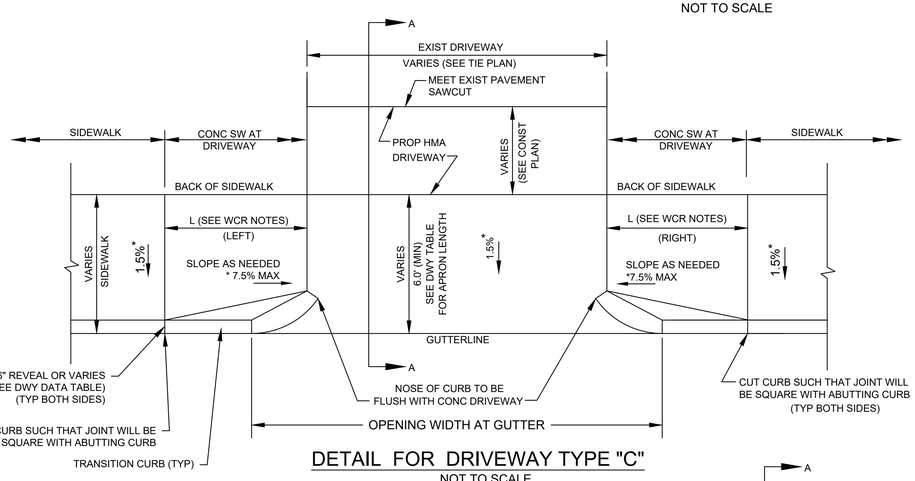
DETAIL FOR DRIVEWAY TYPE "B" (WITH WCR TYPE A ADJACENT RIGHT OR LEFT SIDE OF DRIVEWAY)

NOT TO SCALE



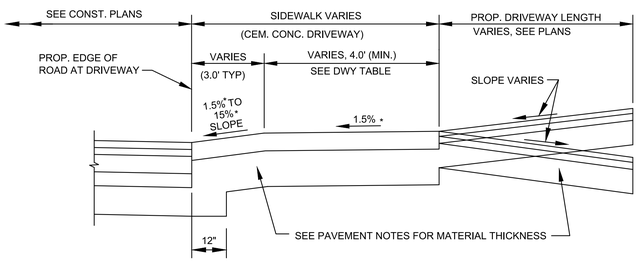
DETAIL FOR DRIVEWAY TYPE "A"

NOT TO SCALE



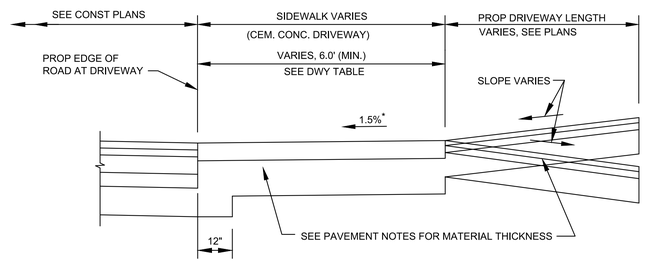
DETAIL FOR DRIVEWAY TYPE "C"

NOT TO SCALE



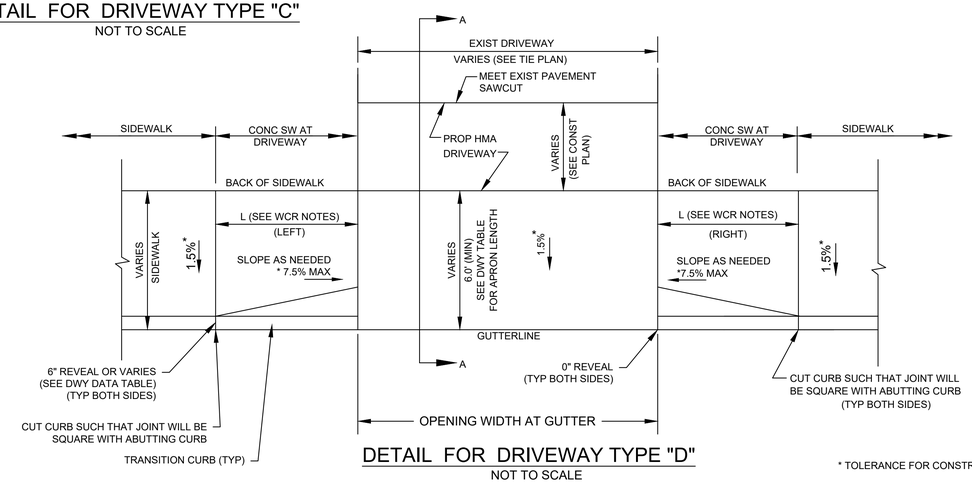
DETAIL SECTION FOR DRIVEWAY TYPES "A" AND "B"

NOT TO SCALE



DETAIL SECTION FOR DRIVEWAY TYPE "C"

NOT TO SCALE



DETAIL FOR DRIVEWAY TYPE "D"

NOT TO SCALE

* TOLERANCE FOR CONSTRUCTION ±0.5%

NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: NJM
DESIGNED BY: CJT
CHECKED BY: TJL

REGISTERED PROFESSIONAL

PREPARED BY: BETA www.BETA-Inc.com

SUBCONSULTANT

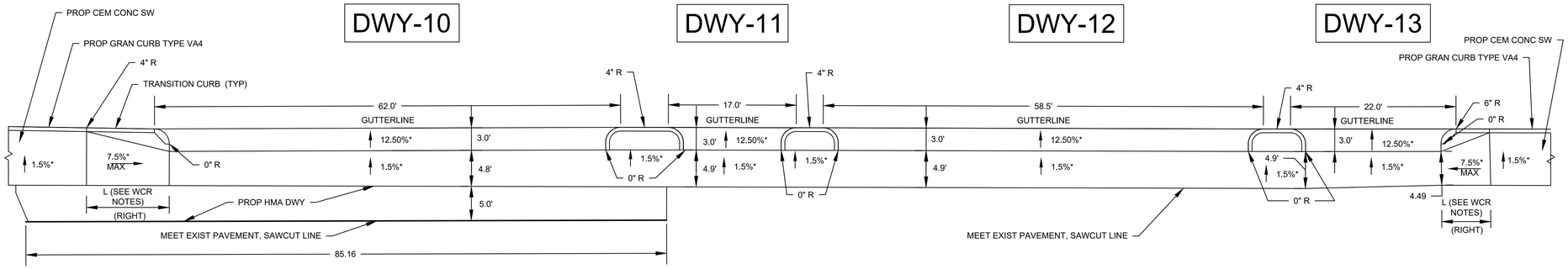
SCALE: AS SHOWN
UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE: **HIGH STREET STREETSCAPE CLINTON, MA**

CONSTRUCTION DETAILS

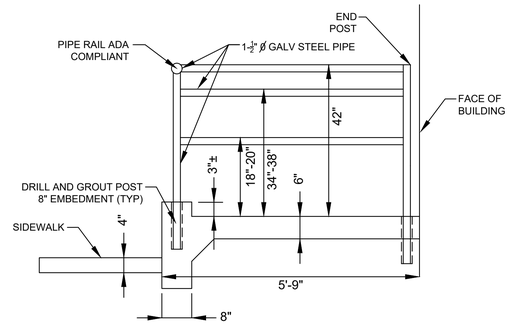
BETA JOB NO. 6182
ISSUE DATE 7/16/2020
SHEET NO. 6 OF 60

O:\6100\S\6182 - CLINTON - HIGH ST STREETSCAPE\DRAWING FILES\PLANSET\6182 CONSTRUCTION DETAILS.DWG (BETA STB BW.STB)



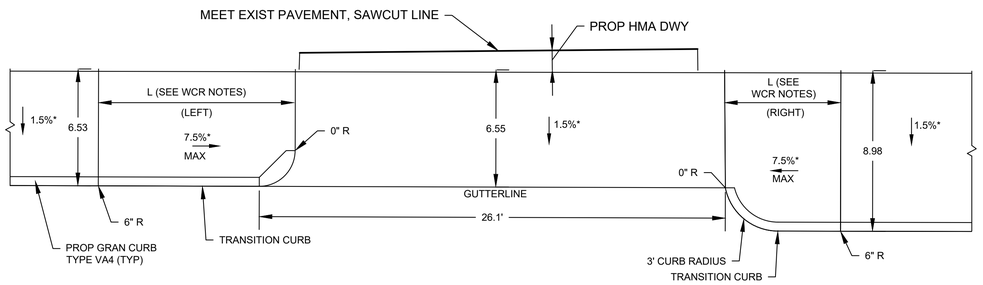
DETAIL FOR DWY-10, DWY-11, DWY-12, DWY-13

NOT TO SCALE



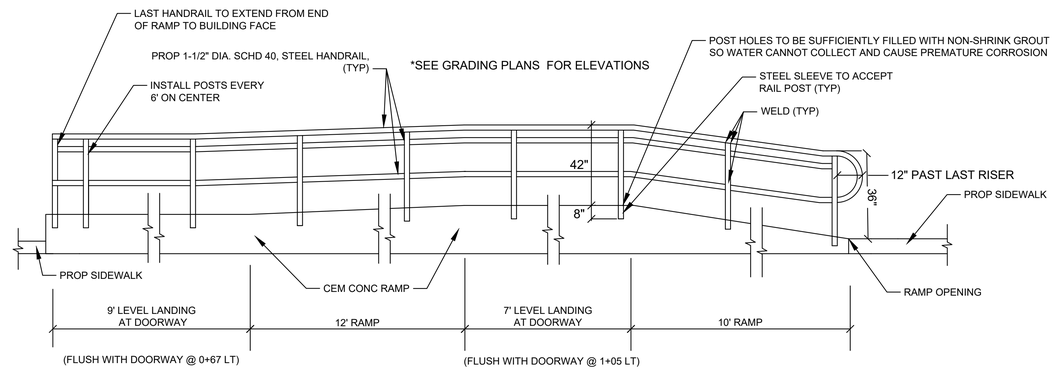
RAIL DETAIL

NOT TO SCALE



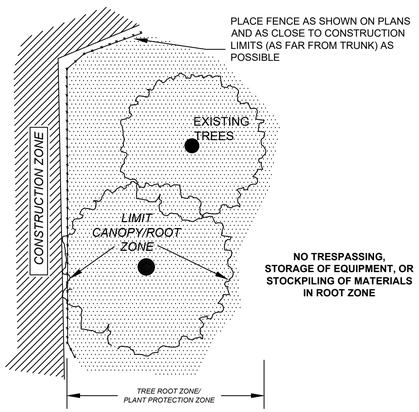
DETAIL FOR DWY-14

NOT TO SCALE

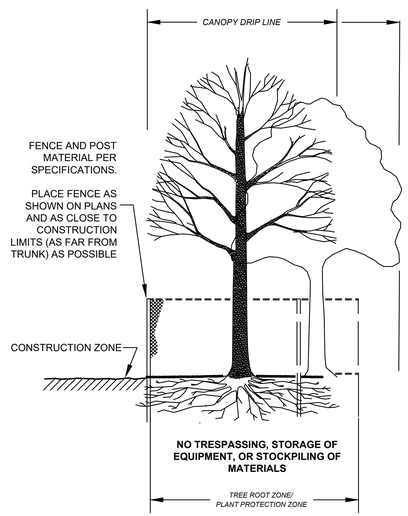


CEMENT CONCRETE RAMP & HANDRAIL DETAIL (STA 0+67± TO STA 1+05±)

NOT TO SCALE



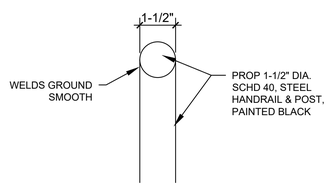
PLAN VIEW - FENCE PROTECTION OF ROOT ZONE



SECTION - FENCE PROTECTION OF ROOT ZONE

TREE PROTECTION - EXISTING TREE(S)

NOT TO SCALE



HANDRAIL

NOT TO SCALE

DRIVEWAY OPENING DATA

DWY NO.	ALIGNMENT	STATION AND OFFSET	OPENING WIDTH AT GUTTER	APRON LENGTH	CURB REVEAL AT RAMP / TRANSITION LIMITS (IN)		TYPE	DWY NO.	ALIGNMENT	STATION AND OFFSET	OPENING WIDTH AT GUTTER	APRON LENGTH	CURB REVEAL AT RAMP / TRANSITION LIMITS (IN)		TYPE
					LT	RT							LT	RT	
1	HIGH STREET	02+49.1' 25.4' LT	SEE DETAIL	SEE DETAIL	SEE DETAIL	SEE DETAIL	SEE DETAIL	15	HIGH STREET	15+84.1' 25.0' RT	17.5'	3.0'	6.0"	6.0"	A
2	HIGH STREET	06+44.4' 28.0' RT	24.1'	3.0'	6.0"	6.0"	A	16	HIGH STREET	16+51.7' 24.8' RT	24.5'	3.0'	6.0"	6.0"	A
3	HIGH STREET	07+67.7' 27.6' RT	22.0'	3.0'	6.0"	6.0"	A	17	HIGH STREET	17+16.1' 24.5' LT	28.0'	-	6.0"	6.0"	C
4	HIGH STREET	09+09.9' 27.7' RT	27.0'	3.0'	6.0"	6.0"	B	18	HIGH STREET	17+53.9' 24.7' LT	31.0'	3.0'	6.0"	6.0"	A
5	HIGH STREET	09+50.1' 27.8' LT	19.9'	3.0'	4.0"	4.0"	B	19	CHURCH ST (EAST)	200+73.4' 20.9' LT	25.5'	3.0'	6.0"	6.0"	D
6	HIGH STREET	09+65.1' 27.6' RT	54.5'	3.0'	4.0"	6.0"	B	20	CHURCH ST (EAST)	201+65.7' 20.5' LT	61.0'	3.0'	6.0"	6.0"	D
7	HIGH STREET	10+76.6' 28.1' RT	20.5'	3.0'	6.0"	6.0"	A	21	CHURCH ST (EAST)	202+70.2' 18.6' RT	14.5'	4.0'	5.0"	6.0"	A
8	HIGH STREET	11+23.40' 27.7' LT	22.0'	3.0'	6.0"	6.0"	A	22	CHURCH ST (EAST)	203+40.2' 18.4' RT	45.4'	-	6.0"	6.0"	C
9	HIGH STREET	12+88.79' 25.5' LT	22.0'	3.0'	4.0"	6.0"	B	23	CHURCH ST (WEST)	301+36.3' 20.8' LT	16.8'	3.0'	6.0"	6.0"	A
10	HIGH STREET	13+65.6' 26.0' RT	SEE DETAIL	SEE DETAIL	SEE DETAIL	SEE DETAIL	SEE DETAIL	24	CHURCH ST (WEST)	301+70.7' 20.5' RT	18.5'	3.0'	6.0"	6.0"	A
11	HIGH STREET	14+11.4' 25.6' RT	SEE DETAIL	SEE DETAIL	SEE DETAIL	SEE DETAIL	SEE DETAIL	25	CHURCH ST (WEST)	302+31.6' 20.9' LT	15.7'	3.0'	3.0"	6.0"	A
12	HIGH STREET	14+52.8' 25.5' RT	SEE DETAIL	SEE DETAIL	SEE DETAIL	SEE DETAIL	SEE DETAIL	26	CHURCH ST (WEST)	302+58.1' 20.7' RT	32.5'	-	6.0"	6.0"	C
13	HIGH STREET	14+96.6' 25.3' RT	SEE DETAIL	SEE DETAIL	SEE DETAIL	SEE DETAIL	SEE DETAIL	27	CHURCH ST (WEST)	303+26.4' 20.6' RT	30.0'	-	4.0"	6.0"	C
14	HIGH STREET	15+08.9' 26.2' LT	SEE DETAIL	SEE DETAIL	SEE DETAIL	SEE DETAIL	SEE DETAIL	28	CHURCH ST (EAST)	203+02.7' 21.7' LT	19.6'	-	4.0"	4.0"	C

* TOLERANCE FOR CONSTRUCTION ±0.5%

NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: NJM
DESIGNED BY: CJT
CHECKED BY: TJL

REGISTERED PROFESSIONAL

PREPARED BY: BETA www.BETA-Inc.com

SUBCONSULTANT

SCALE: AS SHOWN

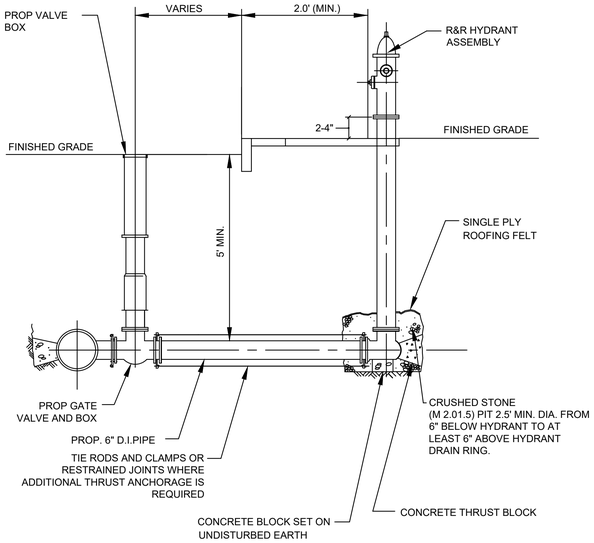
UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE: **HIGH STREET STREETSCAPE CLINTON, MA**

CONSTRUCTION DETAILS

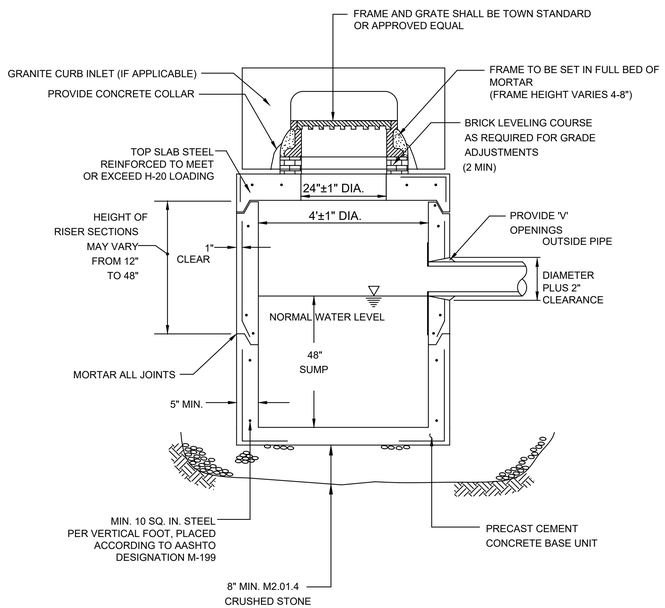
BETA JOB NO. 6182
ISSUE DATE 7/16/2020
SHEET NO. 7 OF 60

O:\6100\S\6182 - CLINTON - HIGH ST STREETSCAPE\DRAWING FILES\PLANSET\6182 CONSTRUCTION DETAILS.DWG (BETA STB BW.STB)



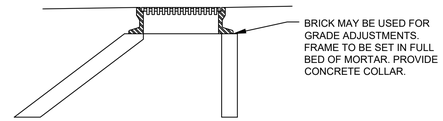
DETAIL FOR HYDRANT REMOVED AND RESET

NOT TO SCALE



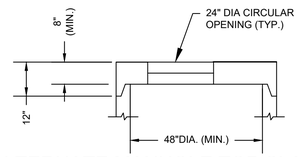
PRECAST CONCRETE CATCH BASIN (FLAT TOP SECTION)

NOT TO SCALE



ALTERNATE MANHOLE OR CB ECCENTRIC CONE TOP SECTION

NOT TO SCALE

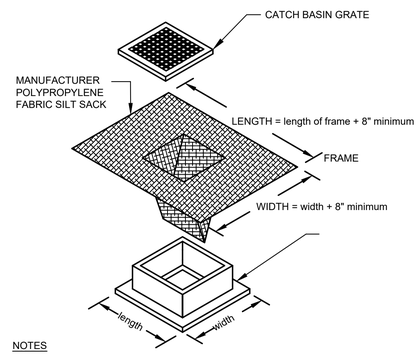


NOTES:

1. BASED ON ACTUAL FIELD CONDITIONS; THE CONTRACTOR SHALL DETERMINE WHICH STYLE OF TOP SECTION SHOULD BE USED.

ALTERNATE MANHOLE TOP SLAB

NOT TO SCALE

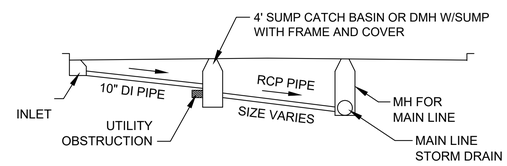


NOTES

1. LENGTH AND WIDTH OF POLYPROPYLENE FABRIC MUST EXCEED EXISTING CATCH BASIN FRAME DIMENSIONS BY A MINIMUM OF 8".
2. REMOVE CATCH BASIN GRATE AND INSTALL POLYPROPYLENE FABRIC OVER CATCH BASIN FRAME. REPLACE CATCH BASIN GRATE TO SECURE POLYPROPYLENE FABRIC IN PLACE.
3. FOR USE ON ALL EXISTING CATCH BASINS WITHIN THE PROJECT LIMITS AND PROPOSED CATCH BASINS THAT ARE IN OPERATION DURING CONSTRUCTION.

SILT SACK

NOT TO SCALE

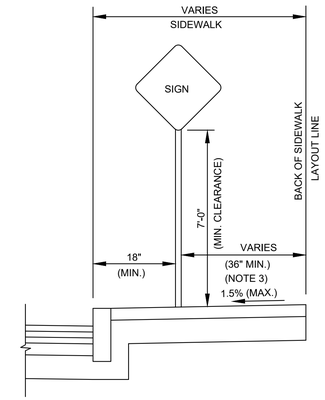


CONTINGENCY DETAIL FOR STORM DRAIN LATERAL LINES

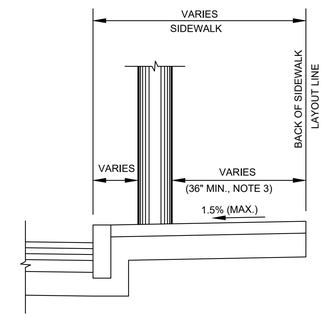
(USE ONLY IF OBSTRUCTION IS ENCOUNTERED)
NOT TO SCALE

NOTE:

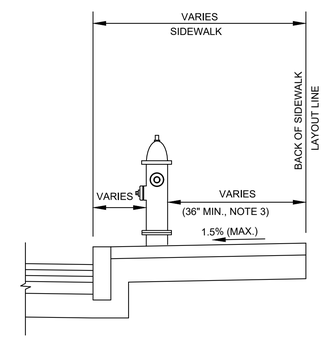
SEE MASSDOT 2017 CONSTRUCTION DETAILS E 201.4.0, E 202.4.0, and E 204.2.0 FOR PRECAST CATCH BASIN WITH CONCENTRIC CONE TOP PRECAST MANHOLE WITH CONCENTRIC CONE TOP AND GUTTER INLET RESPECTIVELY.



TRAFFIC SIGN



UTILITY POLE



HYDRANT

NOTES:

1. THE CONTRACTOR SHALL VERIFY THE LOCATION AND CLEARANCE OF ALL OBJECTS (SIGNS, POLES ETC.) (OBSTRUCTIONS) TO BE SET WITHIN THE PROPOSED SIDEWALK, PRIOR TO FINAL PAVING, AND SHALL ENSURE THAT A MINIMUM CLEAR PATH-OF-TRAVEL OF 36 INCHES IS MAINTAINED. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY LOCATION WHICH CANNOT MEET THE CLEARANCE REQUIREMENTS.
2. MINIMUM CLEAR PATH ON ALL SIDEWALKS SHALL BE 36 INCHES, EXCLUDING THE CURB.
3. CONTRACTOR TO ATTAIN 60" CLEAR (INCLUDING CURB) WHERE FEASIBLE. ADVISE ENGINEER WHEN 60" IS NOT AVAILABLE.

DETAIL FOR MINIMUM OFFSET DISTANCES FOR SIDEWALK OBSTRUCTIONS

NOT TO SCALE

* TOLERANCE FOR CONSTRUCTION ±0.5%

NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: NJM
DESIGNED BY: CJT
CHECKED BY: TJL

REGISTERED PROFESSIONAL

PREPARED BY: BETA www.BETA-Inc.com

SUBCONSULTANT

SCALE: AS SHOWN

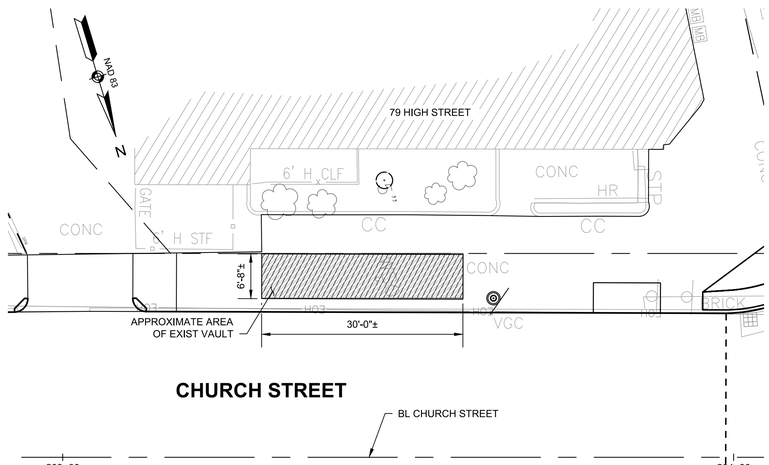
UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE: **HIGH STREET STREETSCAPE CLINTON, MA**

CONSTRUCTION DETAILS

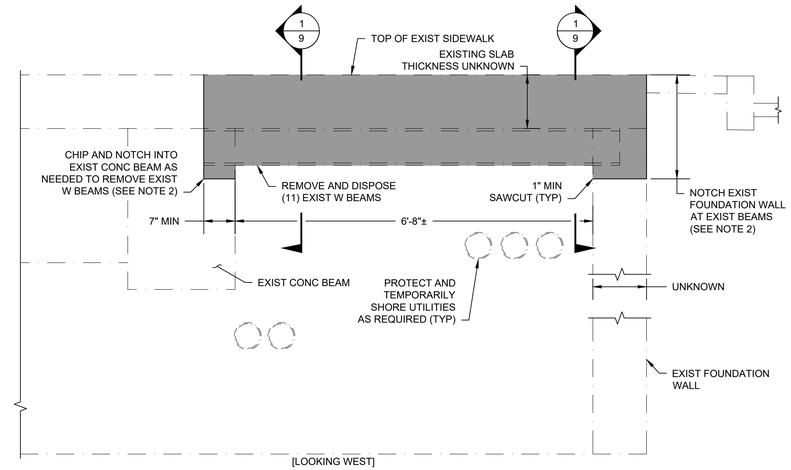
BETA JOB NO. 6182
ISSUE DATE 7/16/2020
SHEET NO. 8 OF 60

O:\610\DS\6182 - CLINTON - HIGH ST STREETSCAPE\DRAWING FILES\PLANSET\6182 CONSTRUCTION DETAILS.DWG (BETA STB BW.STB)



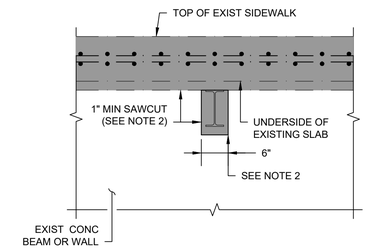
SIDEWALK VAULT PLAN

SCALE: $\frac{3}{32}$" = 1'-0"



VAULT DEMOLITION SECTION

SCALE: $\frac{3}{4}$" = 1'-0"



DEMOLITION SECTION 1

SCALE: $\frac{3}{4}$" = 1'-0"

VAULT NOTES:

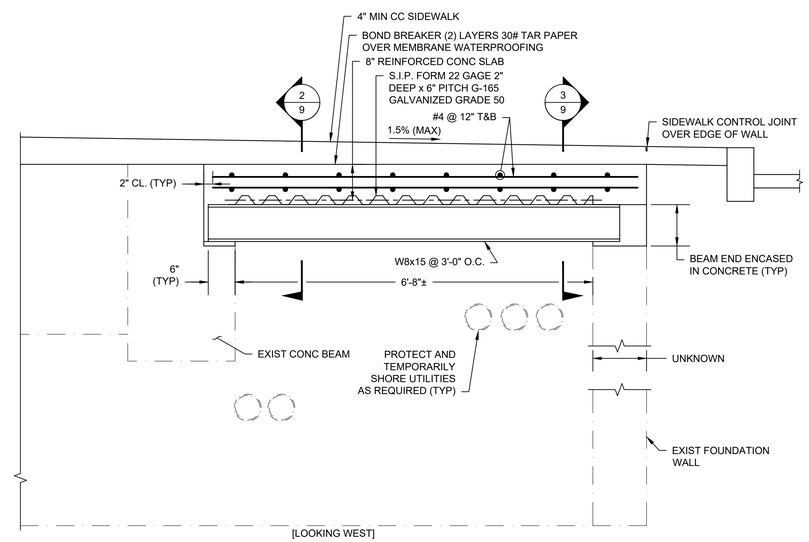
CONCRETE: f'c 4000 PSI, $\frac{3}{4}$ IN., 610 CEMENT CONCRETE

REINFORCING STEEL: ASTM A615 GRADE 60 EPOXY COATED

STEEL: ASTM A992 GRADE 50 HOT DIPPED GALVANIZED (U.O.N.)

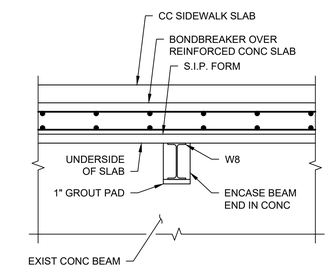
DENOTES AREA TO BE REMOVED AND DISPOSED.

1. DIMENSIONS ARE NOT GUARANTEED. CONTRACTOR SHALL TAKE THEIR OWN MEASUREMENTS PRIOR TO STARTING CONSTRUCTION.
2. THE EXACT DEPTH OF DEMOLITION SHALL BE AS REQUIRED TO ACCOMMODATE THE PROPOSED SLAB THICKNESSES AND BEAM DEPTH. THE CONTRACTOR SHALL FINALIZE THESE DEPTHS ONCE THE EXISTING SLAB THICKNESS HAS BEEN DETERMINED DURING CONSTRUCTION.
3. TOP OF TOP FLANGE OF BEAMS SHALL BE MASKED WITH EPOXY PAINT PRIOR TO GALVANIZING AND PAINTED WITH A LIGHT RUST PREVENTATIVE COAT OF PRIMER AFTER GALVANIZING.



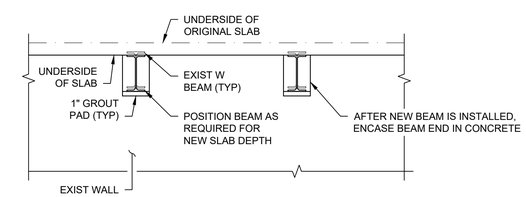
VAULT SECTION

SCALE: $\frac{3}{4}$" = 1'-0"



SECTION 2

SCALE: $\frac{3}{4}$" = 1'-0"



SECTION 3

SCALE: $\frac{3}{4}$" = 1'-0"

NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: DW
DESIGNED BY: DW
CHECKED BY: CWJ

REGISTERED PROFESSIONAL: For Review Only

PREPARED BY: BETA www.BETA-Inc.com

SUBCONSULTANT

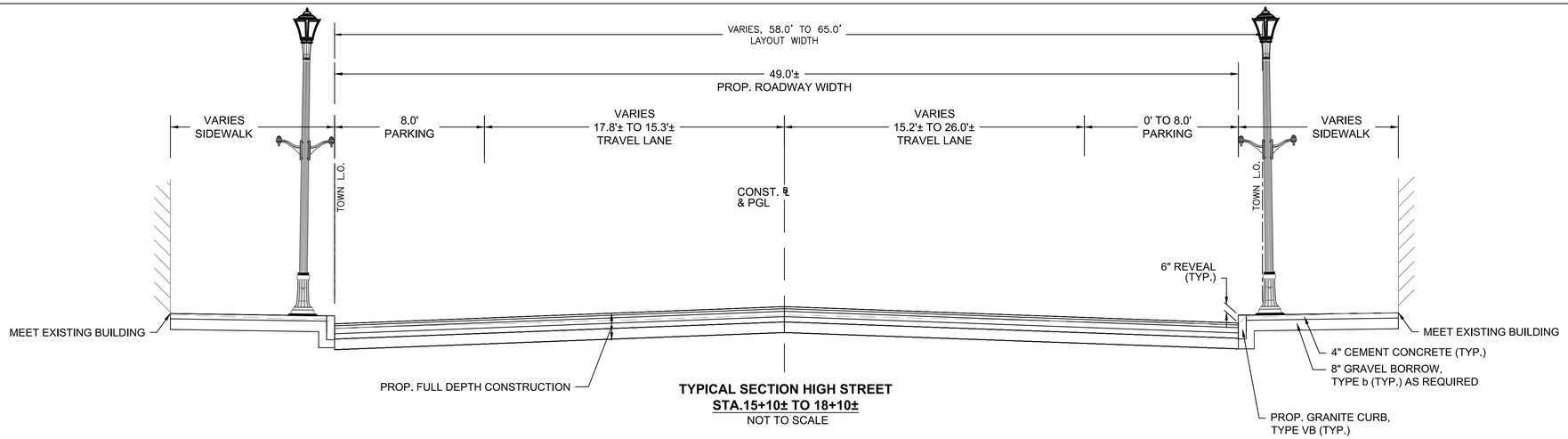
SCALE: AS SHOWN
UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE: HIGH STREET STREETSCAPE
CLINTON, MA

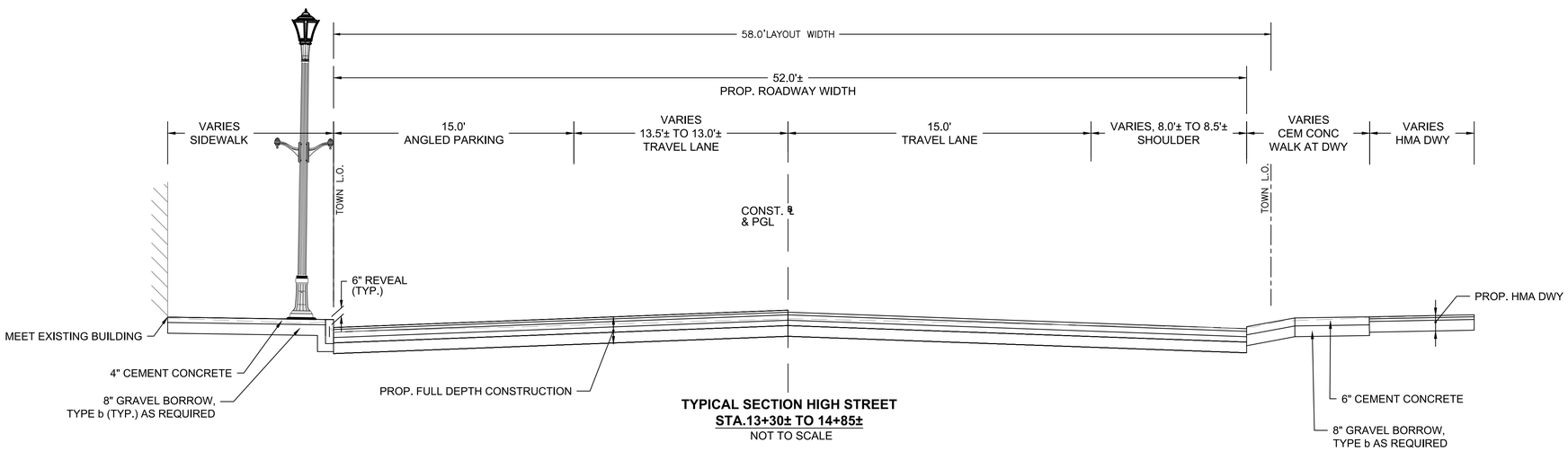
CONSTRUCTION DETAILS

BETA JOB NO. 6182
ISSUE DATE 7/16/2020
SHEET NO. 09 OF 60

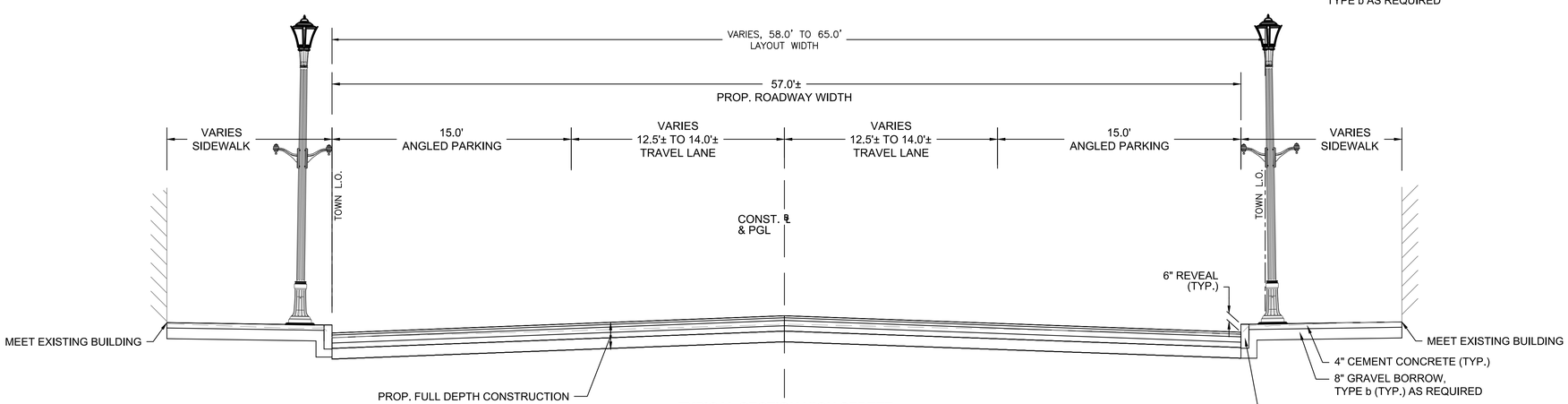
7/16/2020 10:48 AM O:\6100S\6182 - CLINTON - HIGH ST STREETSCAPE\DRAWING FILES\PLANSET\6182 CONSTRUCTION DETAILS (STRUCTURAL).DWG (BETA STB BW.STB)



TYPICAL SECTION HIGH STREET
STA.15+10± TO 18+10±
NOT TO SCALE



TYPICAL SECTION HIGH STREET
STA.13+30± TO 14+85±
NOT TO SCALE



TYPICAL SECTION HIGH STREET
STA.0+40± TO 12+60±
NOT TO SCALE

PAVEMENT NOTES

PROPOSED PAVEMENT MILLING AND OVERLAY

SURFACE COURSE:	1-1/2" SUPERPAVE SURFACE COURSE 9.5 (SSC-9.5) OVER ASPHALT EMULSION FOR TACK COAT OVER
PAVEMENT MILLING:	1-1/2" PAVEMENT MICROMILLING

PROPOSED FULL DEPTH CONSTRUCTION

SURFACE COURSE:	1-1/2" SUPERPAVE SURFACE COURSE 9.5 (SSC-9.5) OVER ASPHALT EMULSION FOR TACK COAT OVER
INTERMEDIATE COURSE:	2" SUPERPAVE INTERMEDIATE COURSE 12.5 (SIC-12.5) OVER ASPHALT EMULSION FOR TACK COAT OVER
BASE COURSE:	4" SUPERPAVE BASE COURSE 37.5 (SBC-37.5) OVER
SUB-BASE:	4" DENSE GRADED CRUSHED STONE FOR SUB BASE OVER 8" GRAVEL BORROW, TYPE b (MIN), AS REQUIRED

PROPOSED CEMENT CONCRETE SIDEWALK, WHEELCHAIR RAMPS AND WALKS

SURFACE:	4" CEMENT CONCRETE WALK SURFACE 4000 PSI, 3/4", 610 OVER
FOUNDATION:	8" GRAVEL BORROW, TYPE b, AS REQUIRED

PROPOSED CEMENT CONCRETE DRIVEWAY AND SIDEWALK AT DRIVEWAY

SURFACE:	6" CEMENT CONCRETE (AIR ENTRAINED 4000 PSI, 3/4", 610)
BASE COURSE:	8" GRAVEL BORROW, TYPE b, AS REQUIRED

PROPOSED HMA DRIVEWAYS

SURFACE:	1-1/2" SUPERPAVE SURFACE COURSE 9.5 (SSC-9.5) OVER 2" SUPERPAVE INTERMEDIATE COURSE 12.5 (SIC-12.5) OVER
FOUNDATION:	8" GRAVEL BORROW, TYPE b, AS REQUIRED

PROJECT TACK COAT NOTES

TACK COAT:	ASPHALT EMULSION FOR TACK COAT, GRADE RS-1 SHALL BE PLACED AT A RATE OF: 0.07 GALLONS PER SQUARE YARD OVER MILLED SURFACES 0.07 GALLONS PER SQUARE YARD OVER CEMENT CONCRETE BASE COURSE 0.05 GALLONS PER SQUARE YARD OVER SMOOTH TIGHT PAVEMENTS PRIOR TO PAVING AN OVERLAY
ASPHALT SEALANT: (ITEM 490.1)	ASPHALT RUBBER SHALL BE APPLIED TO THE EDGES AND SEAMS OF NEW PAVEMENT AND AS DIRECTED BY THE ENGINEER

NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: NJM
DESIGNED BY: NJM
CHECKED BY: TJL

REGISTERED PROFESSIONAL: For Review Only

PREPARED BY: BETA www.BETA-Inc.com

SUBCONSULTANT

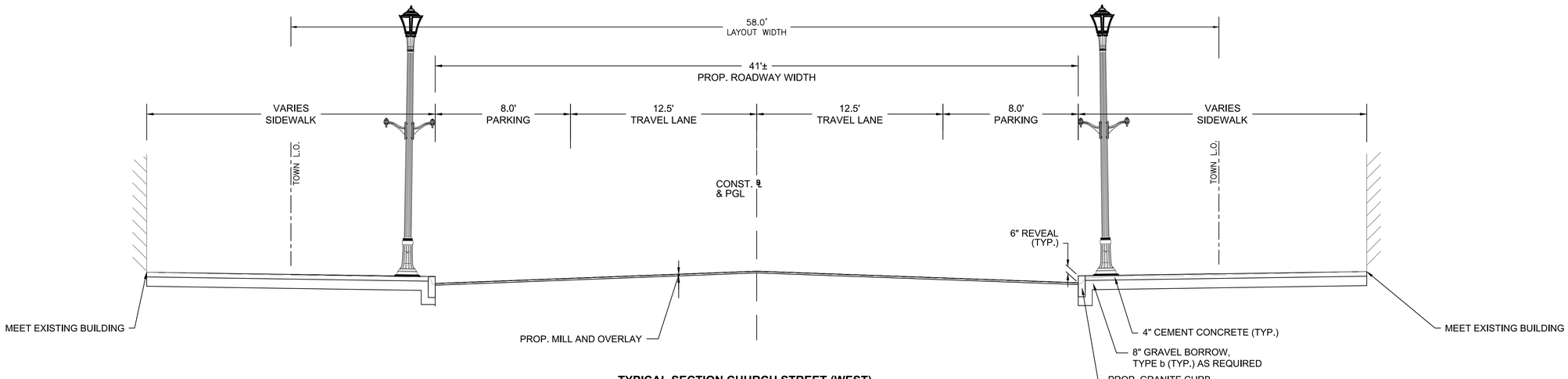
SCALE: NONE
UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE: **HIGH STREET STREETSCAPE CLINTON, MA**

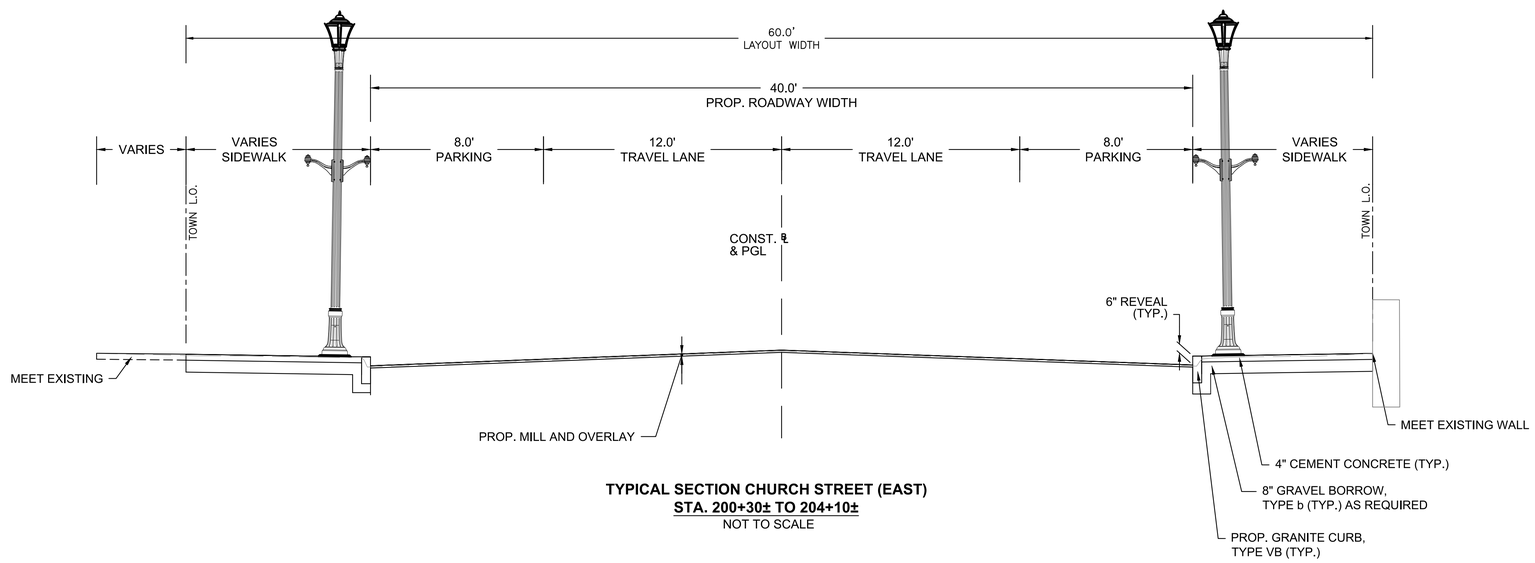
TYPICAL SECTIONS

BETA JOB NO. 6182
ISSUE DATE 7/16/2020
SHEET NO. 10 OF 60

7/16/2020 10:48 AM O:\6100\S\6182 - CLINTON - HIGH ST STREETSCAPE\DRAWING FILES\PLANSET\6182 TYPICAL SECTIONS.DWG (BETA STB BW.STB)



TYPICAL SECTION CHURCH STREET (WEST)
STA. 300+30± TO 303+50±
NOT TO SCALE



TYPICAL SECTION CHURCH STREET (EAST)
STA. 200+30± TO 204+10±
NOT TO SCALE

NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: NJM
DESIGNED BY: NJM
CHECKED BY: TJL

REGISTERED PROFESSIONAL: For Review Only

PREPARED BY: BETA www.BETA-Inc.com

SUBCONSULTANT

SCALE: NONE
UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE: **HIGH STREET STREETSCAPE CLINTON, MA**

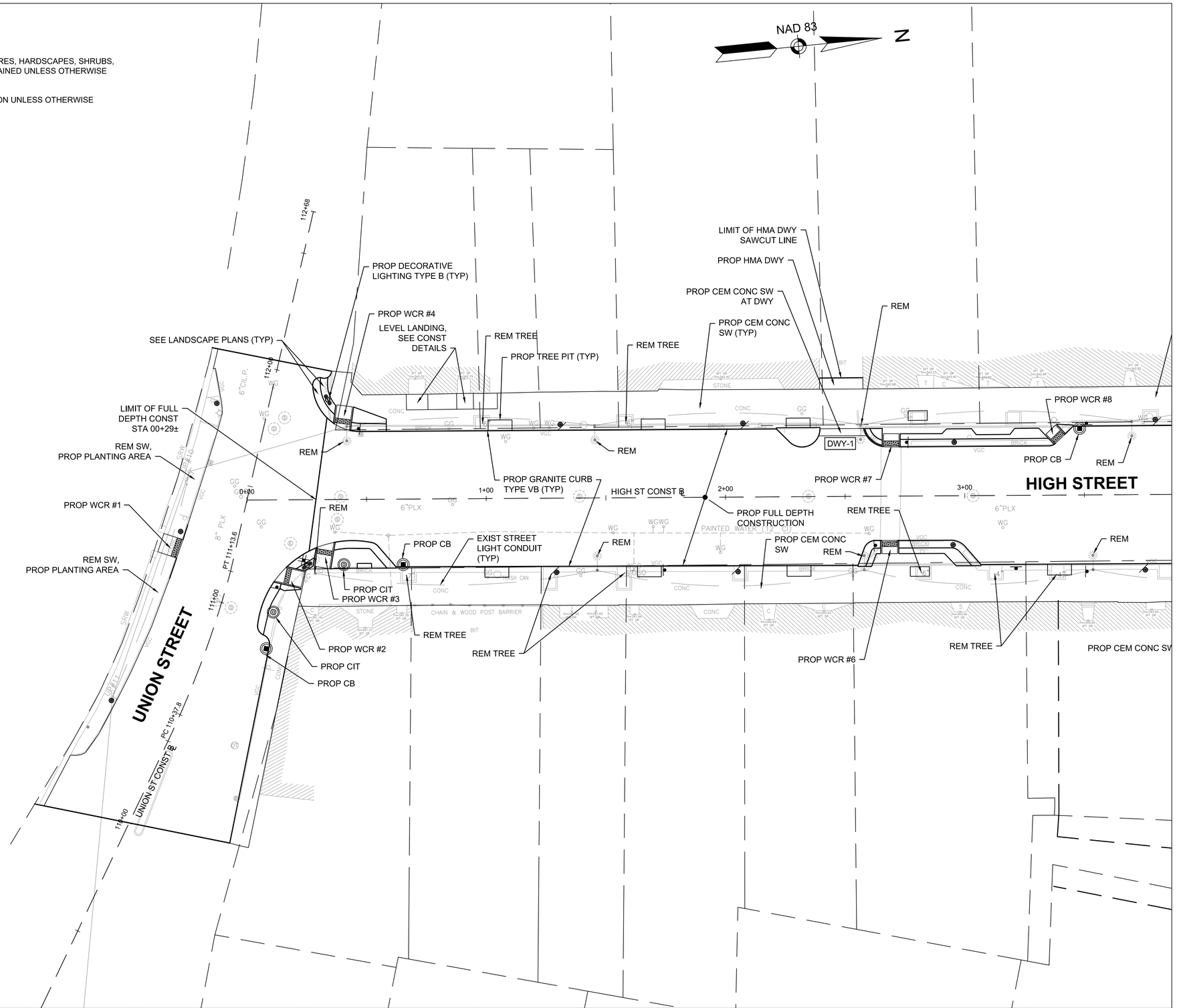
TYPICAL SECTIONS

BETA JOB NO. 6182
ISSUE DATE 7/16/2020
SHEET NO. 11 OF 60

7/16/2020 10:48 AM O:\6100S\6182 - CLINTON - HIGH ST STREETSCAPE\DRAWING FILES\PLANSET\6182 TYPICAL SECTIONS.DWG (BETA STB BW.STB)

NOTES:

1. ALL SURFACE FEATURES INCLUDING BUT NOT LIMITED TO TREES, WALLS, LANDSCAPING FEATURES, HARDSCAPES, SHRUBS, FENCES, STEPS, DOORWAYS, MAILBOXES, TRASH CANS, BENCHES, WALKS, ETC., SHALL BE RETAINED UNLESS OTHERWISE NOTED.
2. PROPOSED BACK OF SIDEWALK SHALL GENERALLY MEET EXISTING BACK OF SIDEWALK LOCATION UNLESS OTHERWISE SHOWN ON THE PLANS. SIDEWALK WIDTH VARIES.



NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: NJM
DESIGNED BY: CJT
CHECKED BY: TJL

REGISTERED PROFESSIONAL

PREPARED BY: BETA www.BETA-Inc.com

SUBCONSULTANT

SCALE: 20 0 20 40 — SCALE IN FEET: 1"=20'
UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

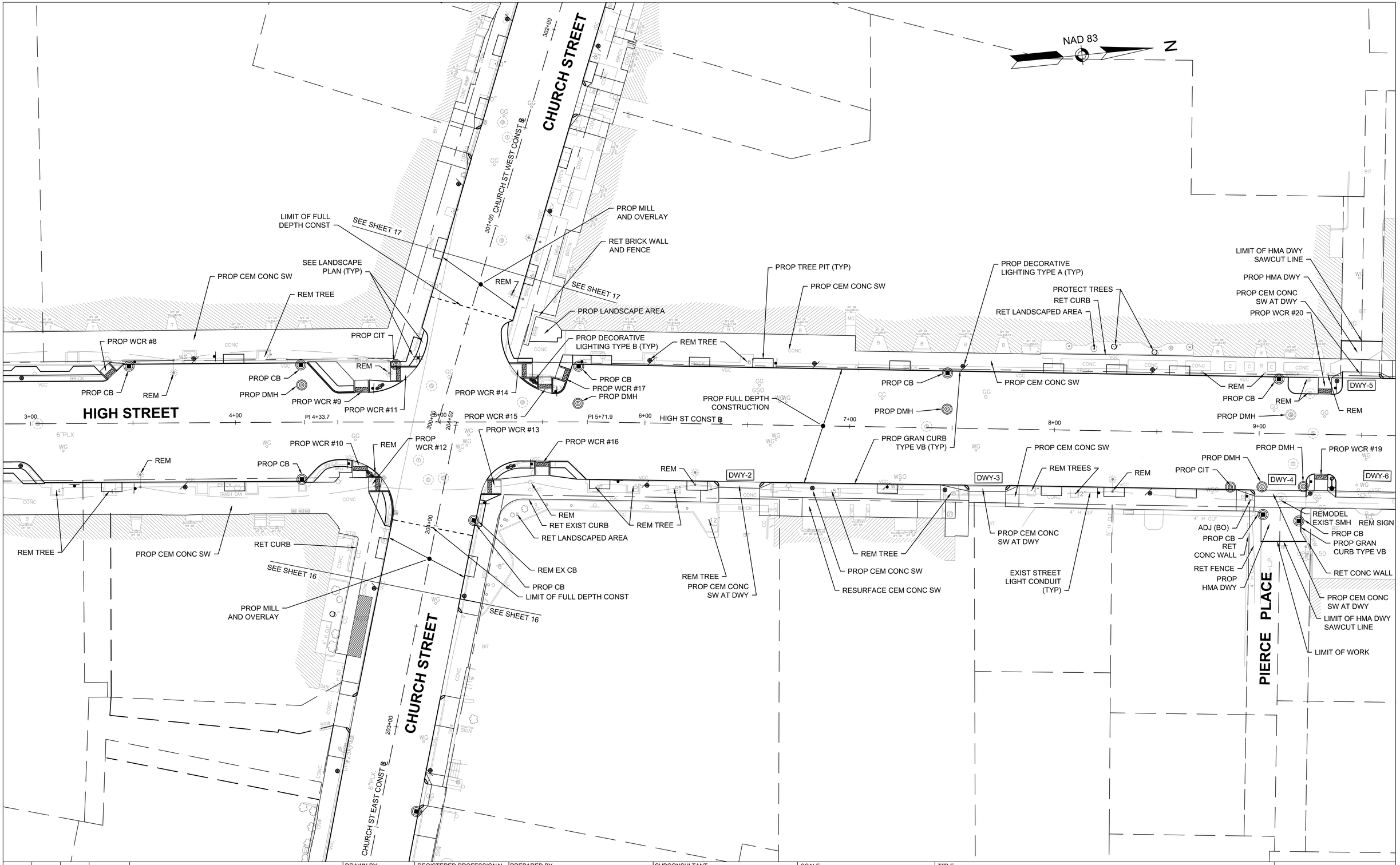
TITLE

HIGH STREET STREETSCAPE
CLINTON, MA

CONSTRUCTION PLAN

BETA JOB NO. 6182
ISSUE DATE 7/16/2020
SHEET NO. 12 OF 60

O:\6100\S\6182 - CLINTON - HIGH ST STREETSCAPE\DRAWING FILES\PLANSET\6182 CONSTRUCTION PLAN (2020).DWG (BETA STB BW.STB)



NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: NJM

DESIGNED BY: CJT

CHECKED BY: TJL

REGISTERED PROFESSIONAL

PREPARED BY: BETA www.BETA-Inc.com

SUBCONSULTANT

SCALE: 20 0 20 40 — SCALE IN FEET: 1"=20'

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE

HIGH STREET STREETSCAPE
CLINTON, MA

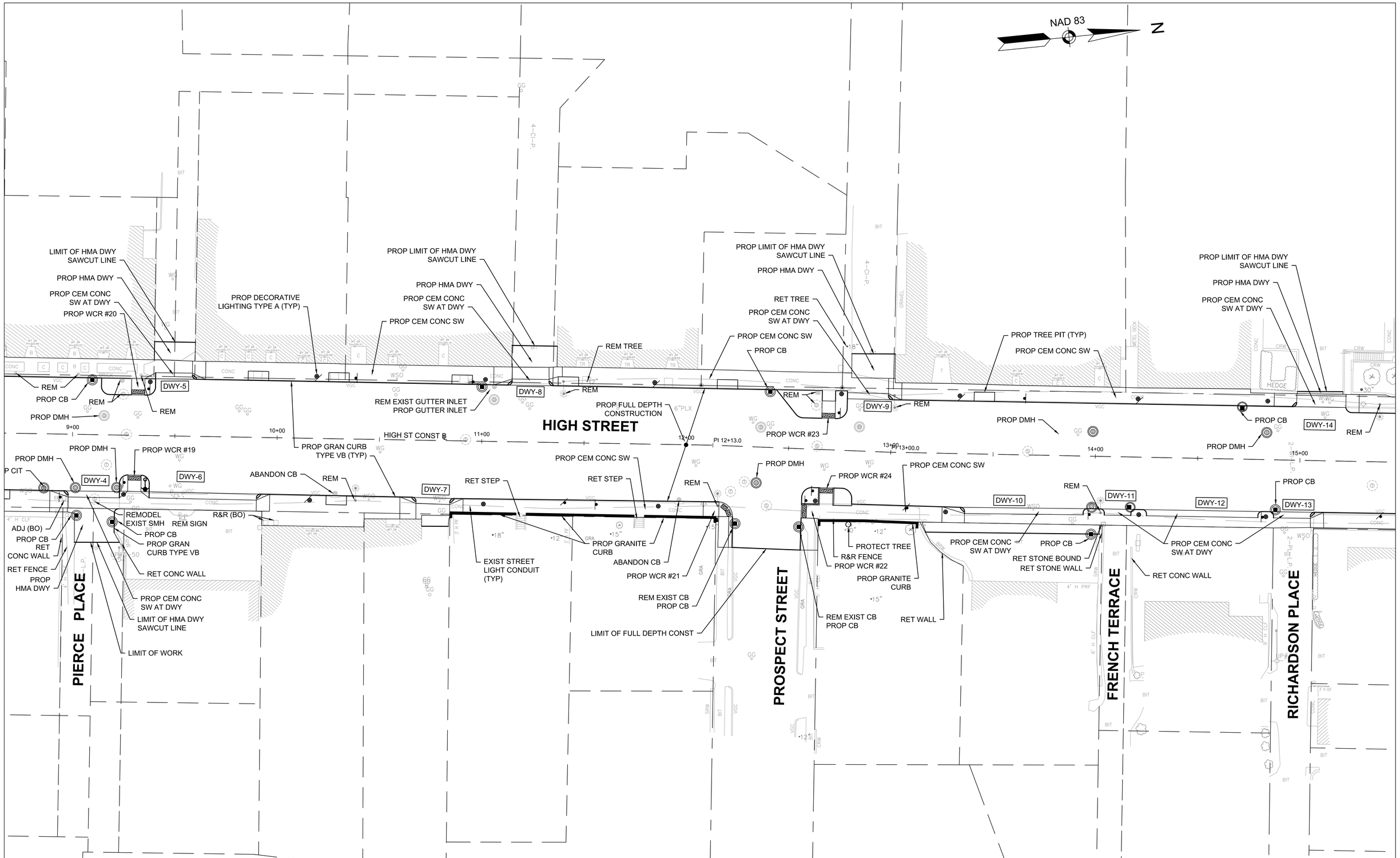
CONSTRUCTION PLAN

BETA JOB NO. 6182

ISSUE DATE 7/16/2020

SHEET NO. 13 OF 60

O:\6100S\6182 - CLINTON - HIGH ST STREETSCAPE\DRAWING FILES\PLANSET\6182 CONSTRUCTION PLAN (2020).DWG (BETA STB BW.STB)



NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: NJM

DESIGNED BY: CJT

CHECKED BY: TJL

REGISTERED PROFESSIONAL

PREPARED BY: BETA www.BETA-Inc.com

SUBCONSULTANT

SCALE: 20 0 20 40 — SCALE IN FEET: 1"=20'

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE: HIGH STREET STREETSCAPE CLINTON, MA

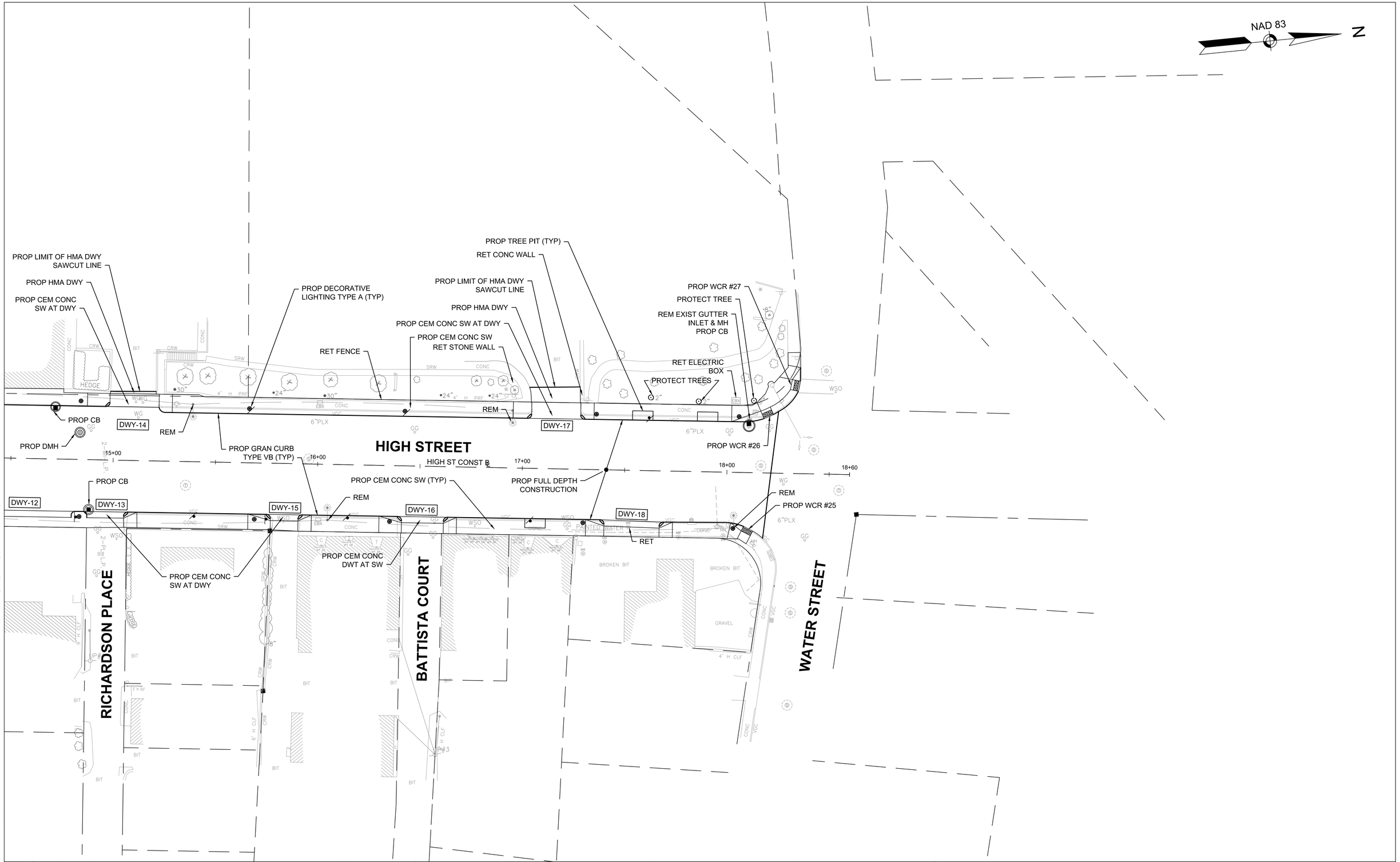
CONSTRUCTION PLAN

BETA JOB NO. 6182

ISSUE DATE 7/16/2020

SHEET NO. 14 OF 60

O:\6100S\6182 - CLINTON - HIGH ST STREETSCAPE\DRAWING FILES\PLANSET\6182 CONSTRUCTION PLAN (2020).DWG (BETA STB BW.STB)



NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: NJM

DESIGNED BY: CJT

CHECKED BY: TJL

REGISTERED PROFESSIONAL

PREPARED BY: BETA www.BETA-Inc.com

SUBCONSULTANT

SCALE: 20 0 20 40 — SCALE IN FEET: 1"=20'

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE: HIGH STREET STREETSCAPE CLINTON, MA

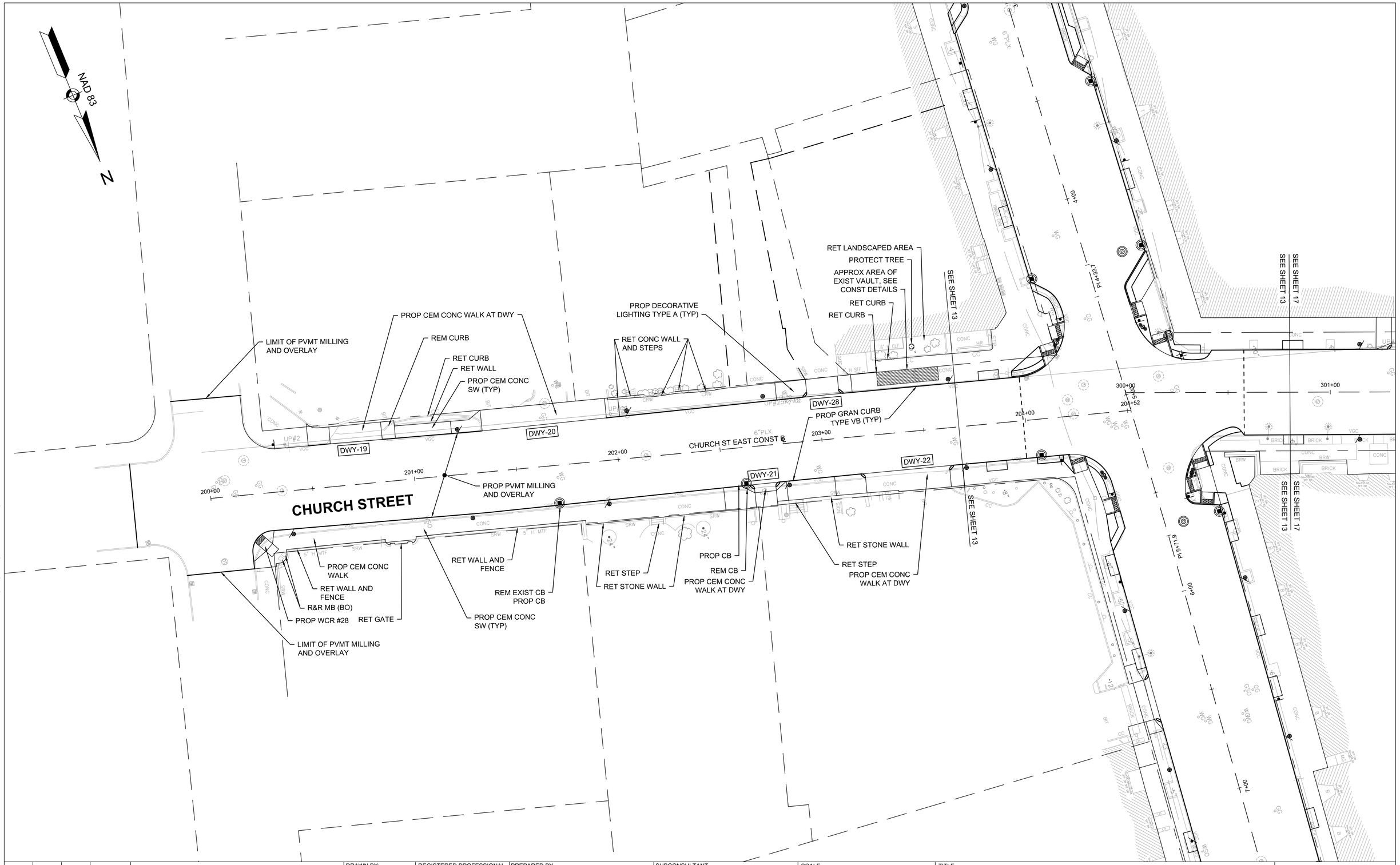
CONSTRUCTION PLAN

BETA JOB NO. 6182

ISSUE DATE 7/16/2020

SHEET NO. 15 OF 60

O:\6100S\6182 - CLINTON - HIGH ST STREETSCAPE\DRAWING FILES\PLANSET\6182 CONSTRUCTION PLAN (2020).DWG (BETA STB BW.STB)



NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: NJM

DESIGNED BY: CJT

CHECKED BY: TJL

REGISTERED PROFESSIONAL

PREPARED BY: BETA www.BETA-Inc.com

SUBCONSULTANT

SCALE: 20 0 20 40 — SCALE IN FEET: 1"=20'

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE

HIGH STREET STREETSCAPE
CLINTON, MA

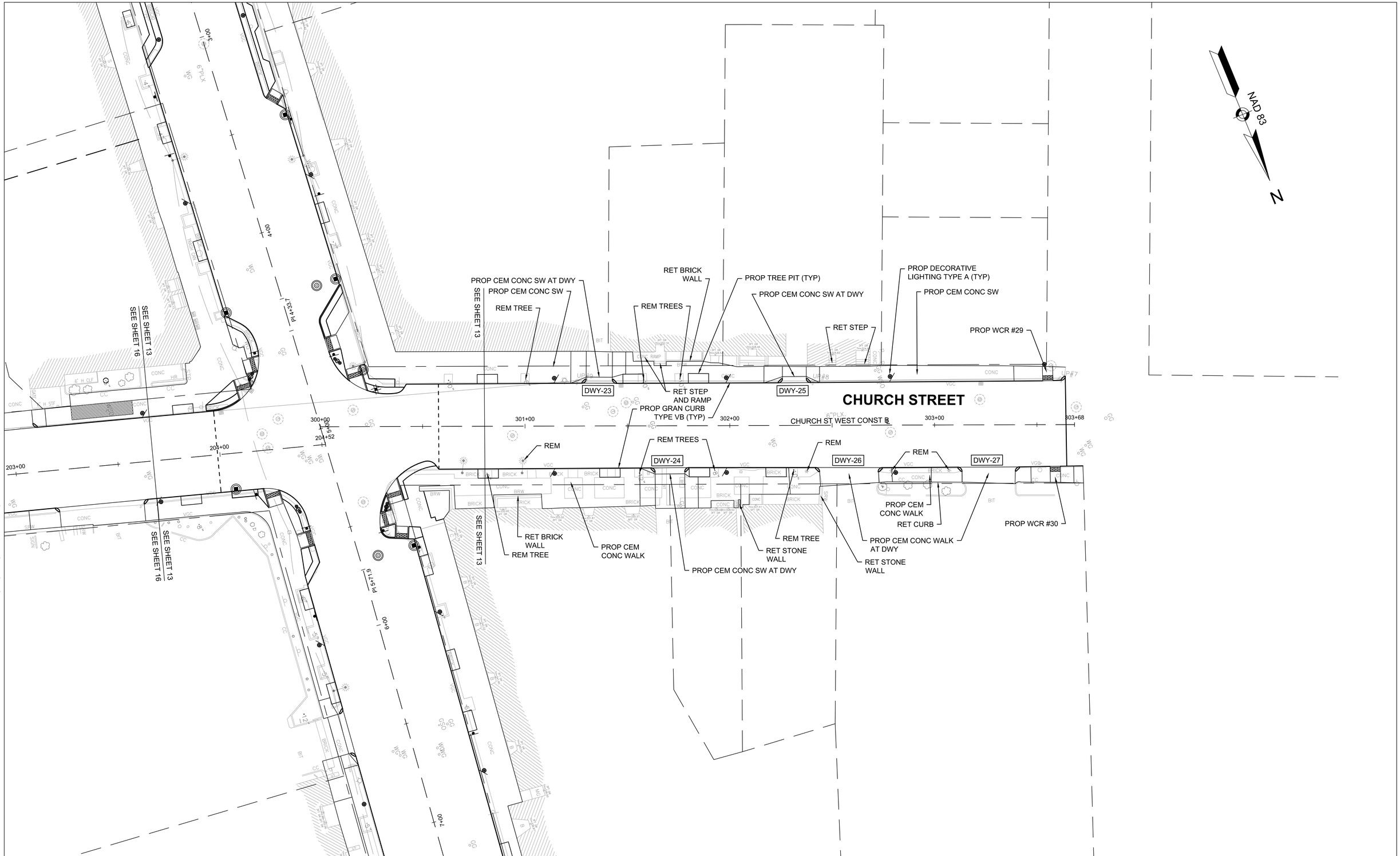
CONSTRUCTION PLAN

BETA JOB NO. 6182

ISSUE DATE 7/16/2020

SHEET NO. 16 OF 60

O:\6100S\6182 - CLINTON - HIGH ST STREETSCAPE\DRAWING FILES\PLANSET\6182 CONSTRUCTION PLAN (2020).DWG (BETA STB BW.STB)



NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: NJM

DESIGNED BY: CJT

CHECKED BY: TJL

REGISTERED PROFESSIONAL

PREPARED BY: BETA www.BETA-Inc.com

SUBCONSULTANT

SCALE: 20 0 20 40 — SCALE IN FEET: 1"=20'

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE

HIGH STREET STREETSCAPE
CLINTON, MA

CONSTRUCTION PLAN

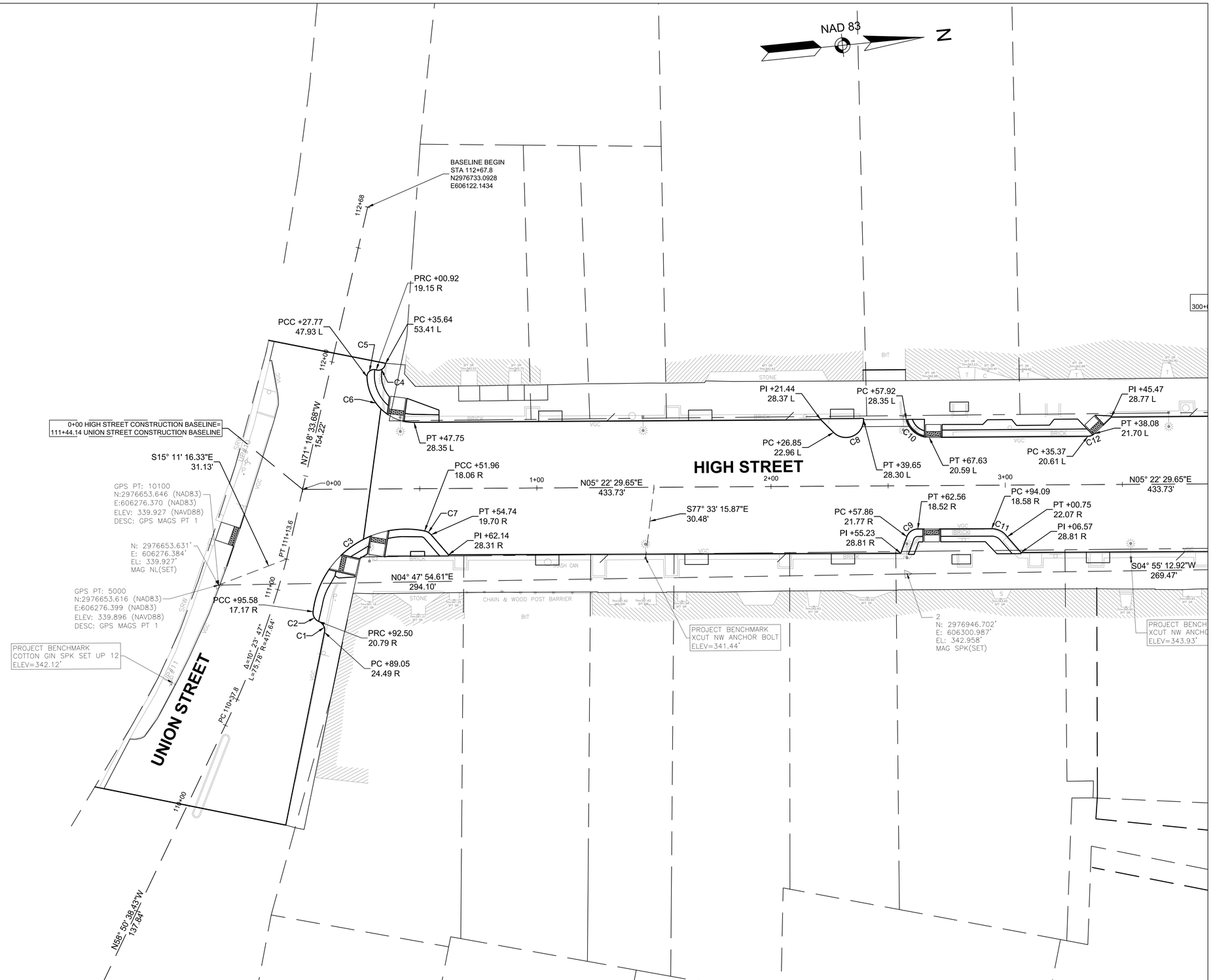
BETA JOB NO. 6182

ISSUE DATE 7/16/2020

SHEET NO. 17 OF 60

O:\6100\S\6182 - CLINTON - HIGH ST STREETSCAPE\DRAWING FILES\PLANSET\6182 CONSTRUCTION PLAN (2020).DWG (BETA STB BW.STB)

CURVE TABLE				
CURVE #	LENGTH	DELTA	RADIUS	TANGENT
C12	2.99	42.85	4.00	1.57
C10	11.91	68.25	10.00	6.78
C8	17.70	135.23	7.50	18.21
C6	30.97	88.73	20.00	19.56
C5	5.73	109.49	3.00	4.24
C4	5.39	103.00	3.00	3.77
C2	5.21	74.57	4.00	3.05
C1	5.64	80.80	4.00	3.40
C3	66.02	94.56	40.00	43.32
C7	3.28	37.64	5.00	1.70
C9	6.07	69.61	5.00	3.48
C11	6.85	49.05	8.00	3.65



NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: NJM

DESIGNED BY: CJT

CHECKED BY: TJL

REGISTERED PROFESSIONAL

PREPARED BY

BETA
www.BETA-Inc.com

SUBCONSULTANT

SCALE

20 0 20 40
SCALE IN FEET: 1"=20'

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE

HIGH STREET STREETSCAPE
CLINTON, MA

CURB TIE AND BASELINE PLAN

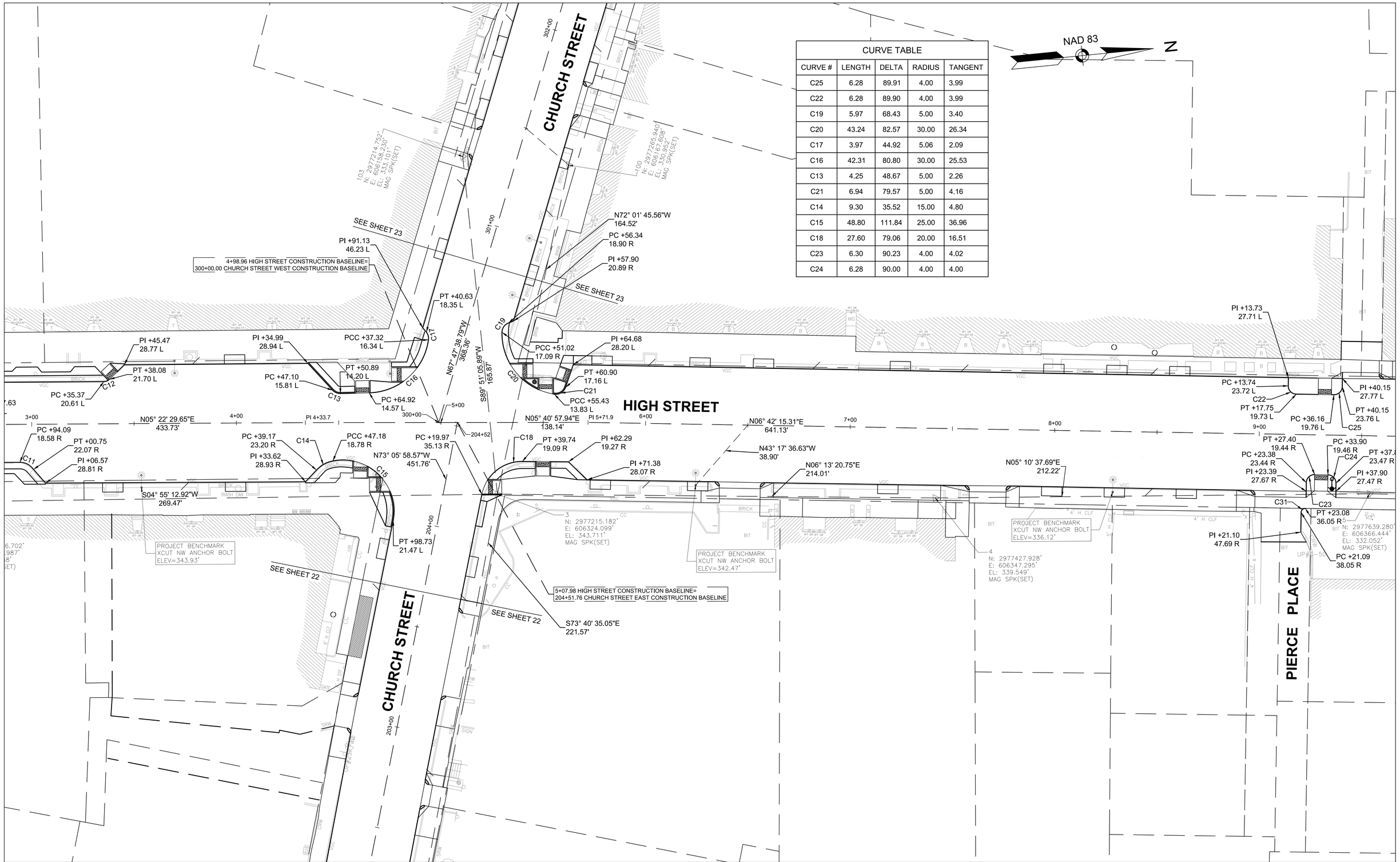
BETA JOB NO. 6182

ISSUE DATE 7/16/2020

SHEET NO. 18 OF 60

O:\6100\6182 - CLINTON - HIGH ST STREETSCAPE\DRAWING FILES\PLANSET\6182 CURB TIE AND BASELINE PLAN.DWG (BETA STB BW.STB)

CURVE TABLE				
CURVE #	LENGTH	DELTA	RADIUS	TANGENT
C25	6.28	89.91	4.00	3.99
C22	6.28	89.90	4.00	3.99
C19	5.97	68.43	5.00	3.40
C20	43.24	82.57	30.00	26.34
C17	3.97	44.92	5.06	2.09
C16	42.31	80.80	30.00	25.53
C13	4.25	48.67	5.00	2.26
C21	6.94	79.57	5.00	4.16
C14	9.30	35.52	15.00	4.80
C15	48.80	111.84	25.00	36.96
C18	27.60	79.06	20.00	16.51
C23	6.30	90.23	4.00	4.02
C24	6.28	90.00	4.00	4.00



NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: NJM
DESIGNED BY: CJT
CHECKED BY: TJL

REGISTERED PROFESSIONAL

PREPARED BY
BETA
www.BETA-Inc.com

SUBCONSULTANT

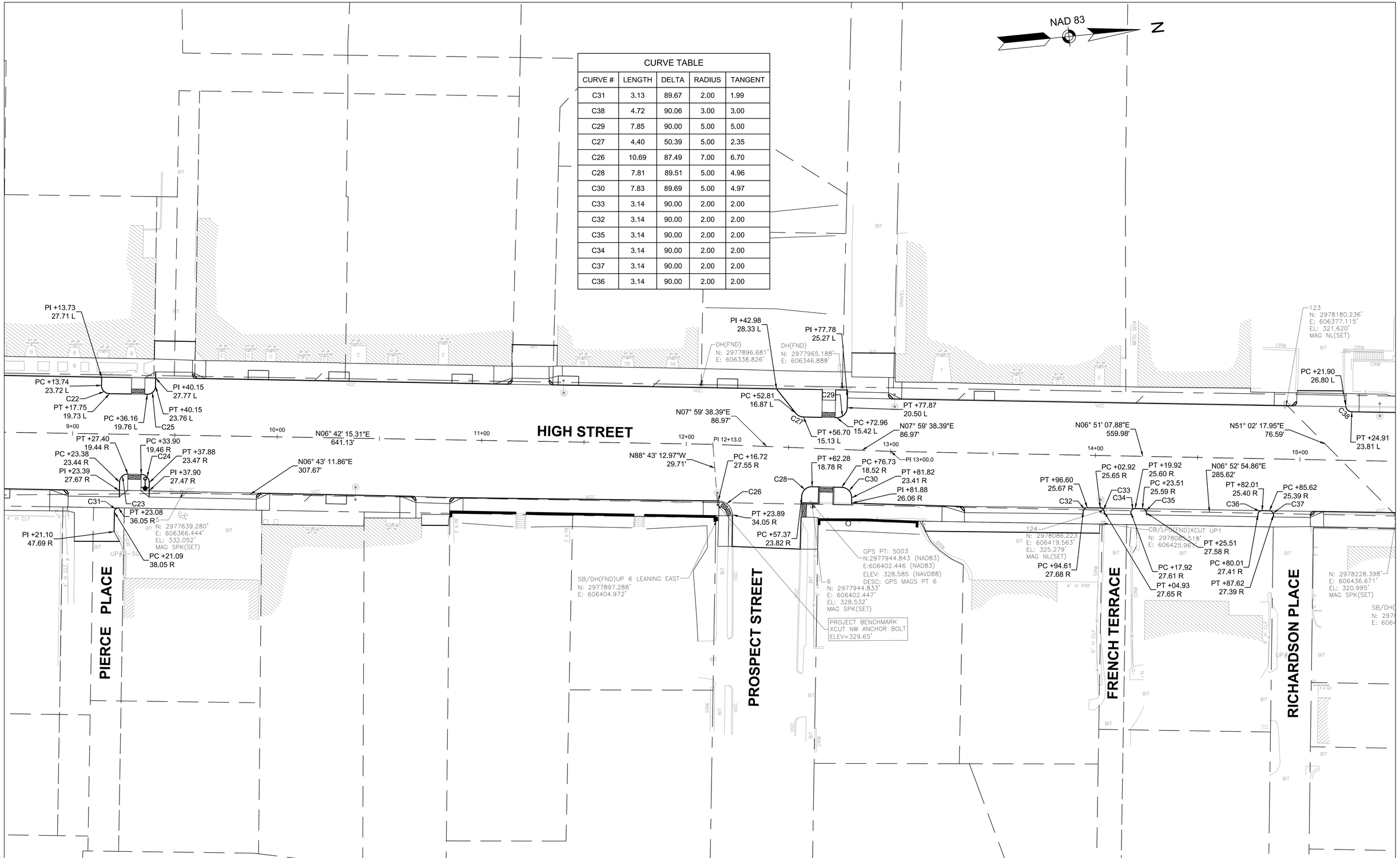
SCALE
20 0 20 40
SCALE IN FEET: 1"=20'
UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE
HIGH STREET STREETSCAPE
CLINTON, MA
CURB TIE AND BASELINE PLAN

BETA JOB NO. 6182
ISSUE DATE 7/16/2020
SHEET NO. 19 OF 60

O:\6100S\6182 - CLINTON - HIGH ST STREETSCAPE\DRAWING FILES\PLANSET\6182 CURB TIE AND BASELINE PLAN.DWG (BETA STB BW.STB)

CURVE TABLE				
CURVE #	LENGTH	DELTA	RADIUS	TANGENT
C31	3.13	89.67	2.00	1.99
C38	4.72	90.06	3.00	3.00
C29	7.85	90.00	5.00	5.00
C27	4.40	50.39	5.00	2.35
C26	10.69	87.49	7.00	6.70
C28	7.81	89.51	5.00	4.96
C30	7.83	89.69	5.00	4.97
C33	3.14	90.00	2.00	2.00
C32	3.14	90.00	2.00	2.00
C35	3.14	90.00	2.00	2.00
C34	3.14	90.00	2.00	2.00
C37	3.14	90.00	2.00	2.00
C36	3.14	90.00	2.00	2.00



NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: NJM
DESIGNED BY: CJT
CHECKED BY: TJL

REGISTERED PROFESSIONAL

PREPARED BY: BETA www.BETA-Inc.com

SUBCONSULTANT

SCALE: 20 0 20 40 — SCALE IN FEET: 1"=20'

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE

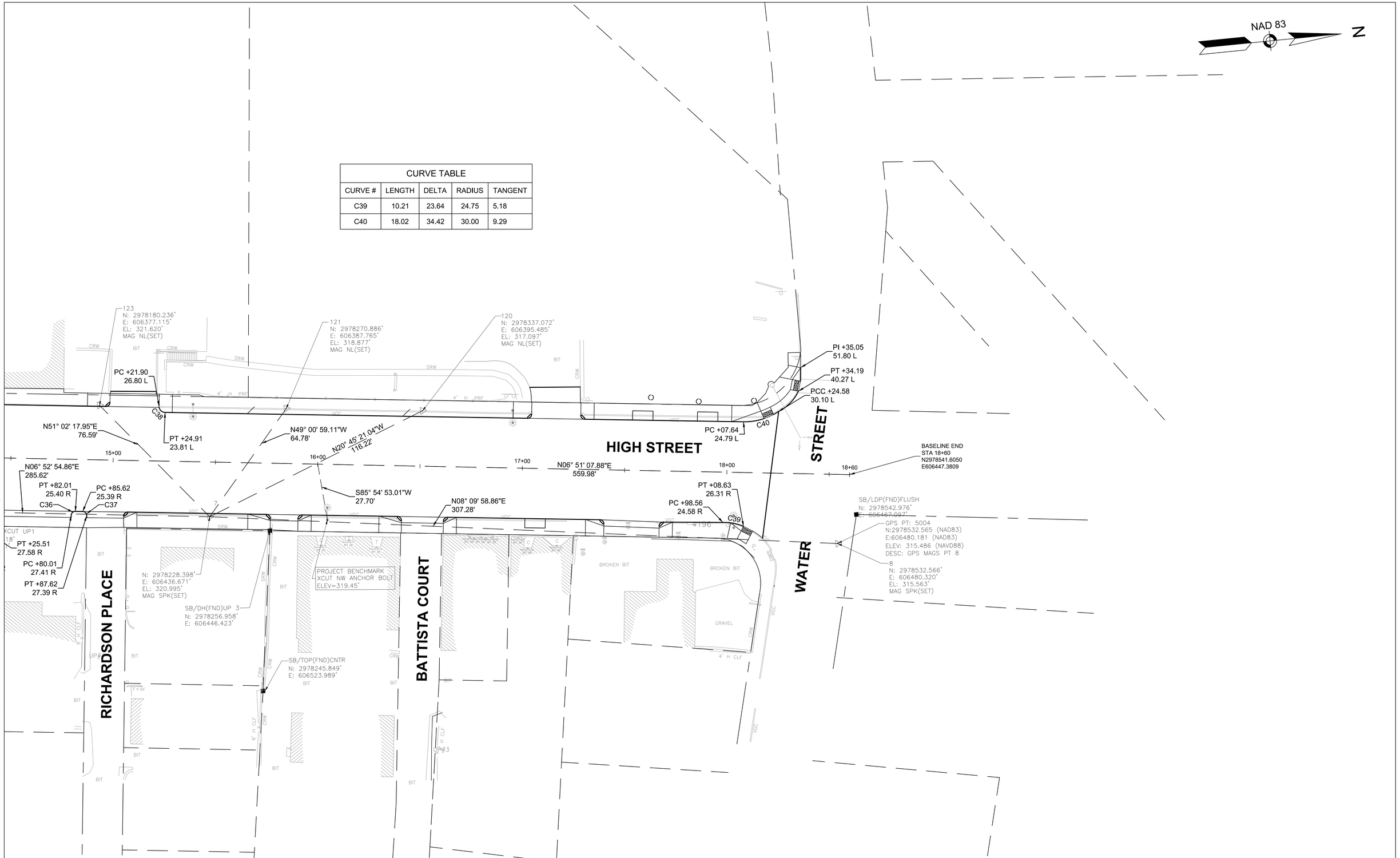
HIGH STREET STREETSCAPE
CLINTON, MA

CURB TIE AND BASELINE PLAN

BETA JOB NO. 6182
ISSUE DATE 7/16/2020
SHEET NO. 20 OF 60

O:\6100\S\6182 - CLINTON - HIGH ST STREETSCAPE\DRAWING FILES\PLANSET\6182 CURB TIE AND BASELINE PLAN.DWG (BETA STB BW.STB)

CURVE TABLE				
CURVE #	LENGTH	DELTA	RADIUS	TANGENT
C39	10.21	23.64	24.75	5.18
C40	18.02	34.42	30.00	9.29



NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: NJM
DESIGNED BY: CJT
CHECKED BY: TJL

REGISTERED PROFESSIONAL

PREPARED BY: BETA www.BETA-Inc.com

SUBCONSULTANT

SCALE: 20 0 20 40 — SCALE IN FEET: 1"=20'

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

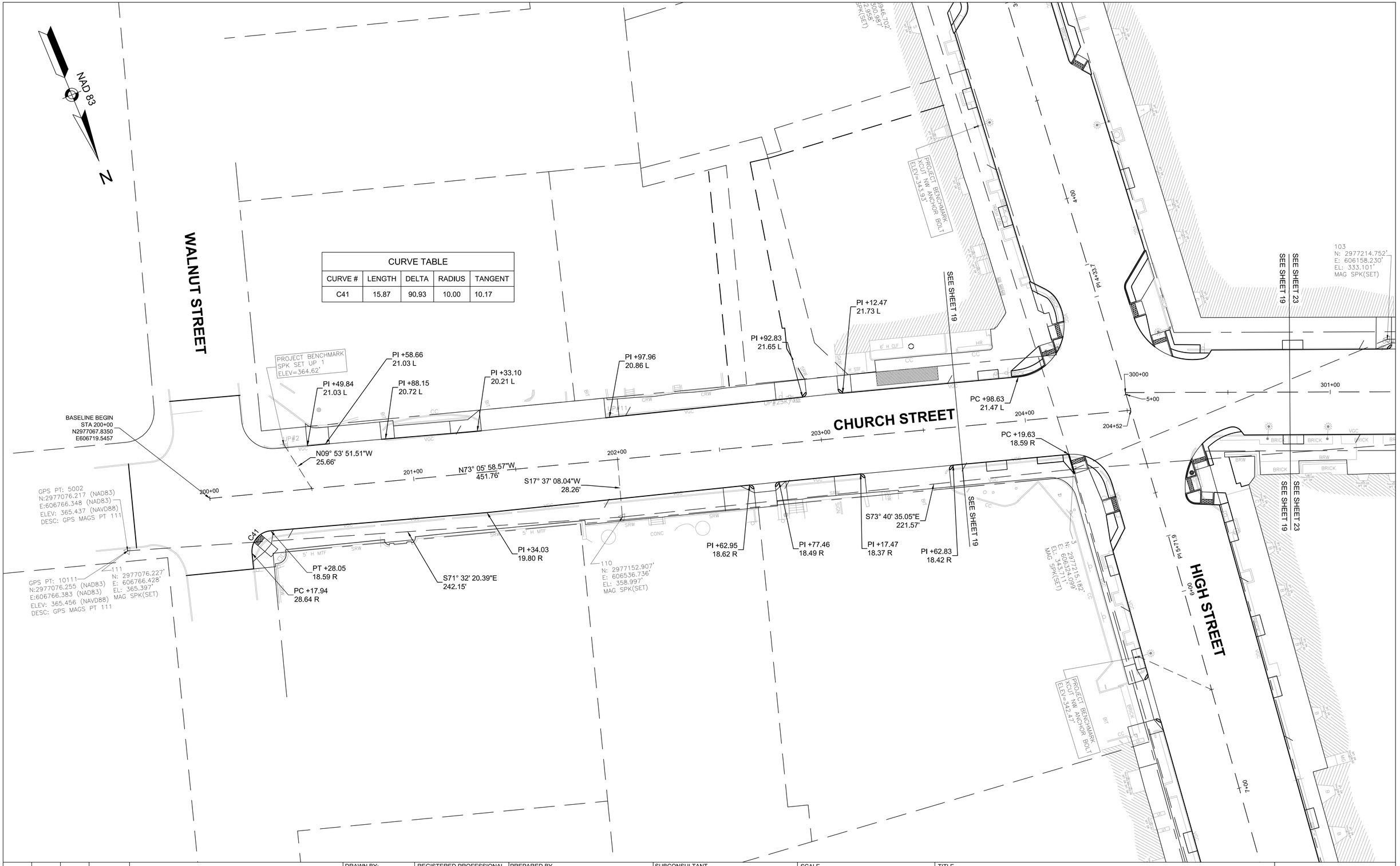
TITLE

HIGH STREET STREETSCAPE
CLINTON, MA

CURB TIE AND BASELINE PLAN

BETA JOB NO. 6182
ISSUE DATE 7/16/2020
SHEET NO. 21 OF 60

Q:\6100\S\6182 - CLINTON - HIGH ST STREETSCAPE\DRAWING FILES\PLANSET\6182 CURB TIE AND BASELINE PLAN.DWG (BETA STB BW.STB)



NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: NJM

DESIGNED BY: CJT

CHECKED BY: TJL

REGISTERED PROFESSIONAL

PREPARED BY: BETA www.BETA-Inc.com

SUBCONSULTANT

SCALE: 20 0 20 40 — SCALE IN FEET: 1"=20'

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE

HIGH STREET STREETSCAPE
CLINTON, MA

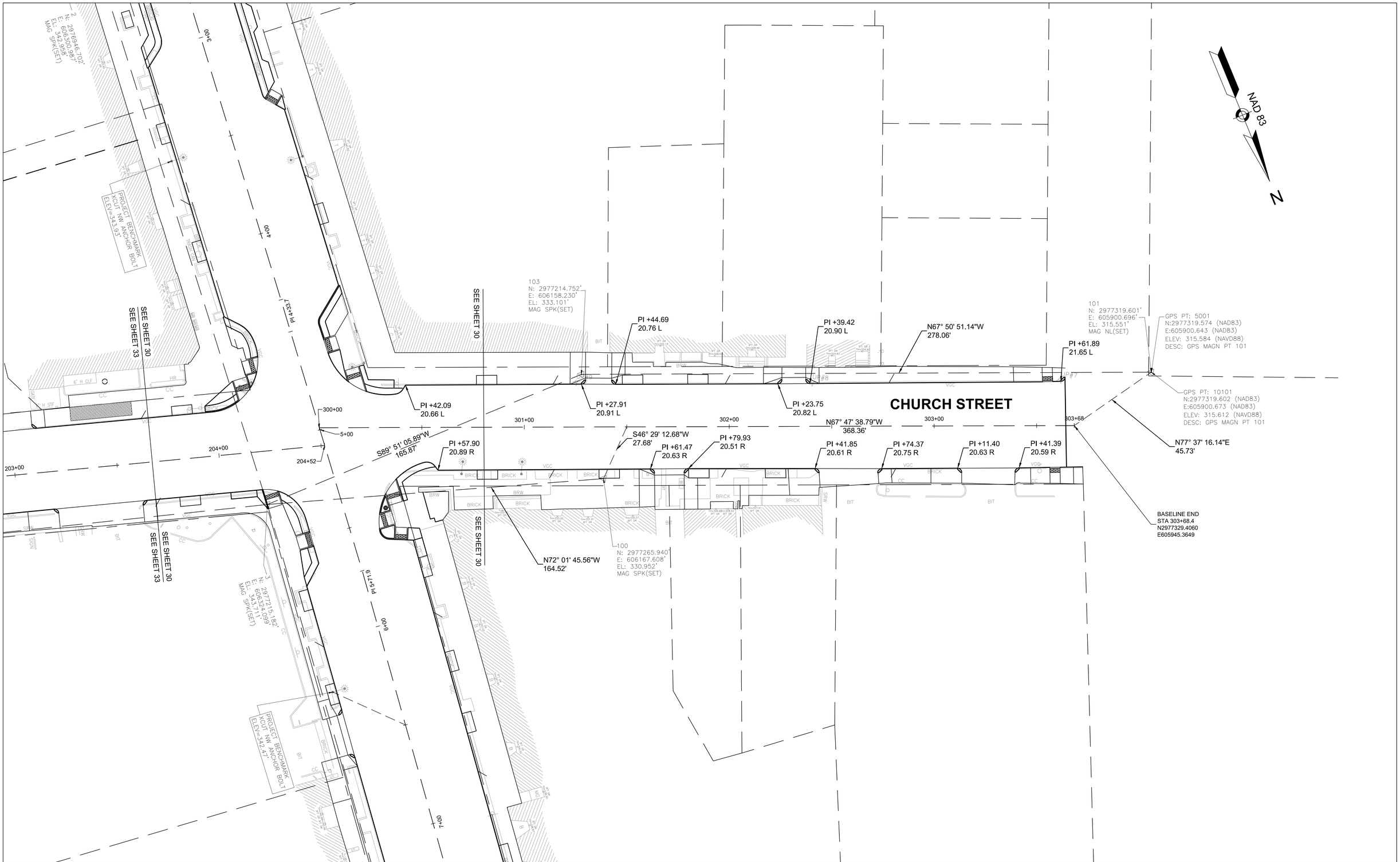
CURB TIE AND BASELINE PLAN

BETA JOB NO. 6182

ISSUE DATE 7/16/2020

SHEET NO. 22 OF 60

O:\6100\S\6182 - CLINTON - HIGH ST STREETSCAPE\DRAWING FILES\PLANSET\6182 CURB TIE AND BASELINE PLAN.DWG (BETA STB BW.STB)



NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: NJM

DESIGNED BY: CJT

CHECKED BY: TJL

REGISTERED PROFESSIONAL

PREPARED BY: BETA www.BETA-Inc.com

SUBCONSULTANT

SCALE: 20 0 20 40 — SCALE IN FEET: 1"=20'

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE

HIGH STREET STREETSCAPE
CLINTON, MA

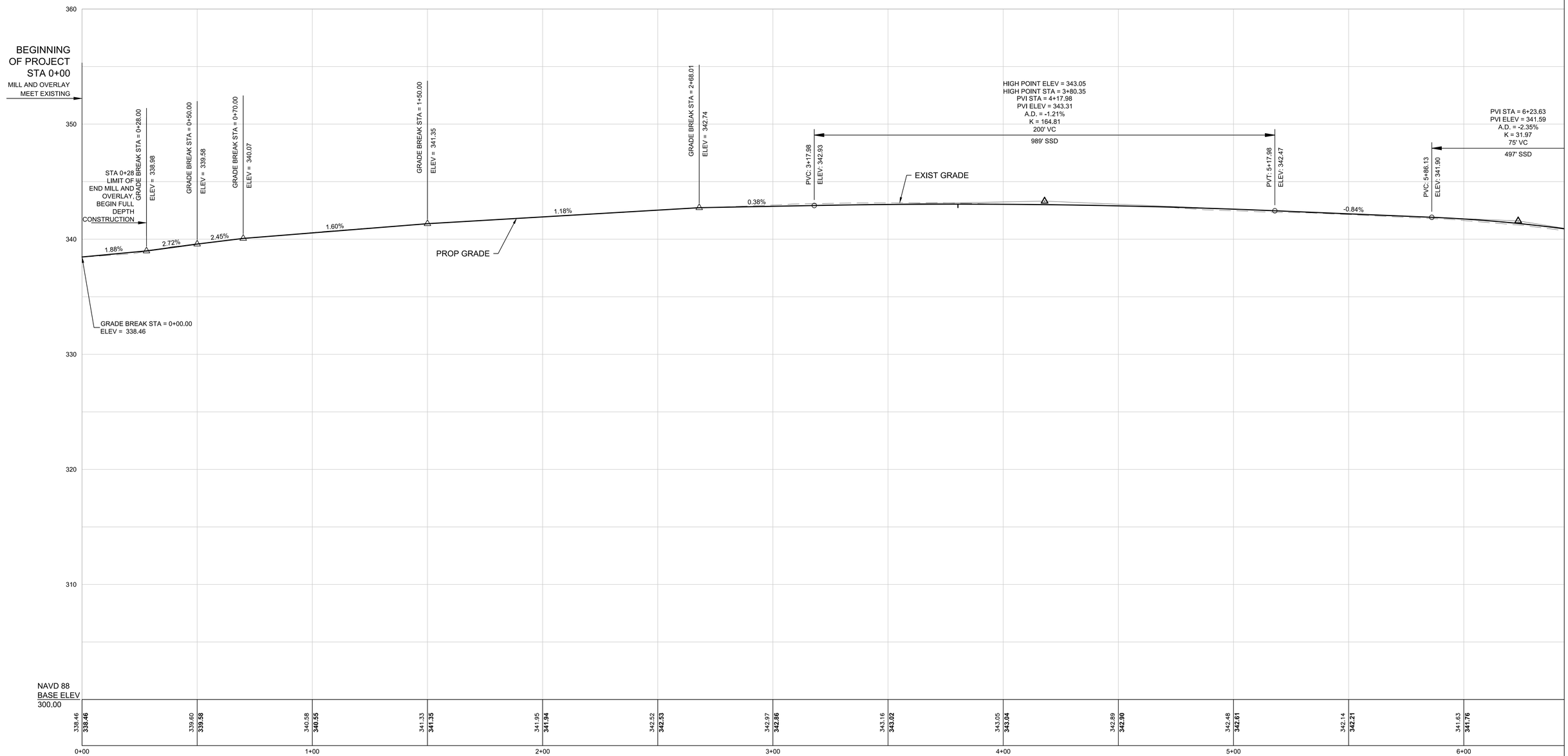
CURB TIE AND BASELINE PLAN

BETA JOB NO. 6182

ISSUE DATE 7/16/2020

SHEET NO. 23 OF 60

O:\6100\S\6182 - CLINTON - HIGH ST STREETSCAPE\DRAWING FILES\PLANSET\6182 CURB TIE AND BASELINE PLAN.DWG (BETA STB BW.STB)



NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: NJM

DESIGNED BY: CJT

CHECKED BY: TJL

REGISTERED PROFESSIONAL

PREPARED BY

BETA
www.BETA-Inc.com

SUBCONSULTANT

SCALE

HOR. SCALE IN FEET: 1"=20'
20 0 20 40
4 0 4 8
VER. SCALE IN FEET: 1"=4'

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE

HIGH STREET STREETSCAPE
CLINTON, MA

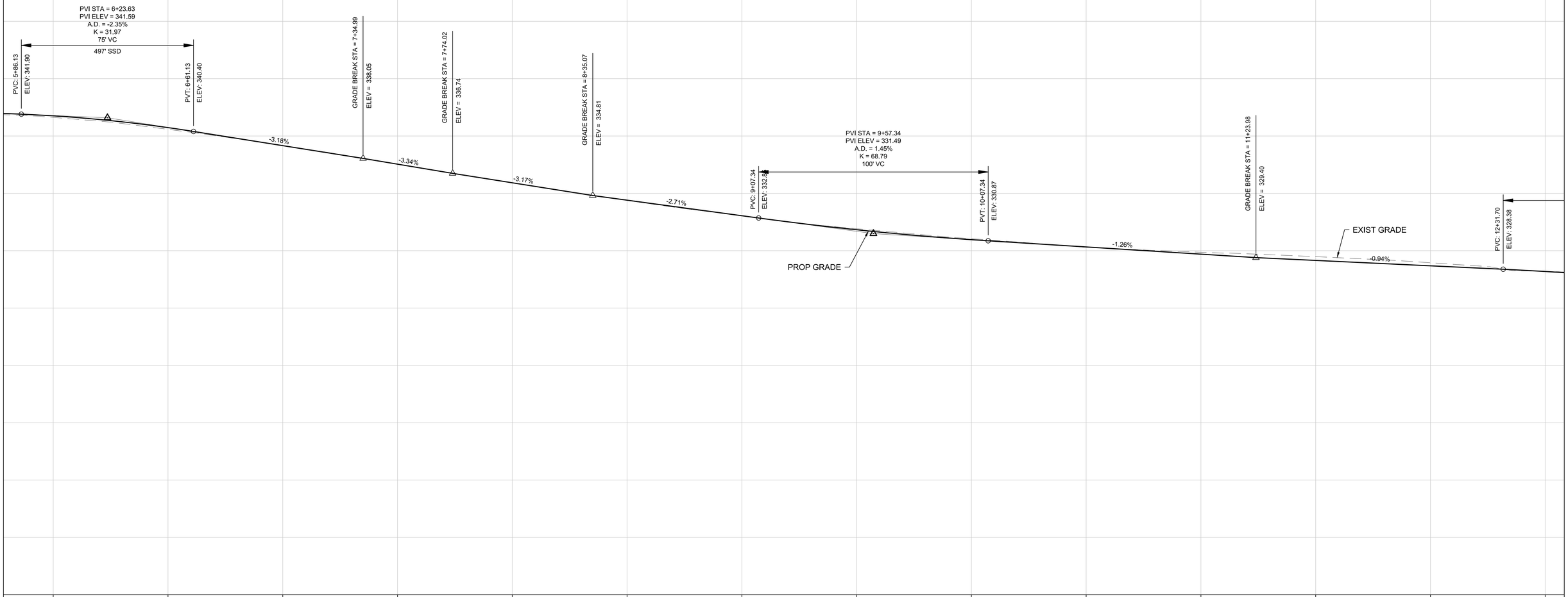
PROFILE - HIGH STREET

BETA JOB NO. 6182

ISSUE DATE 7/16/2020

SHEET NO. 24 OF 60

7/16/2020 10:50 AM O:\6100S\6182 - CLINTON - HIGH ST STREETSCAPE\DRAWING FILES\PLANSET\6182 PROFILE.DWG (BETA STB BW.STB)



NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: NJM

DESIGNED BY: CJT

CHECKED BY: TJL

REGISTERED PROFESSIONAL

PREPARED BY

BETA
www.BETA-Inc.com

SUBCONSULTANT

SCALE

HOR. SCALE IN FEET: 1"=20'
20 0 20 40
4 0 4 8
VER. SCALE IN FEET: 1"=4'

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE

HIGH STREET STREETSCAPE
CLINTON, MA

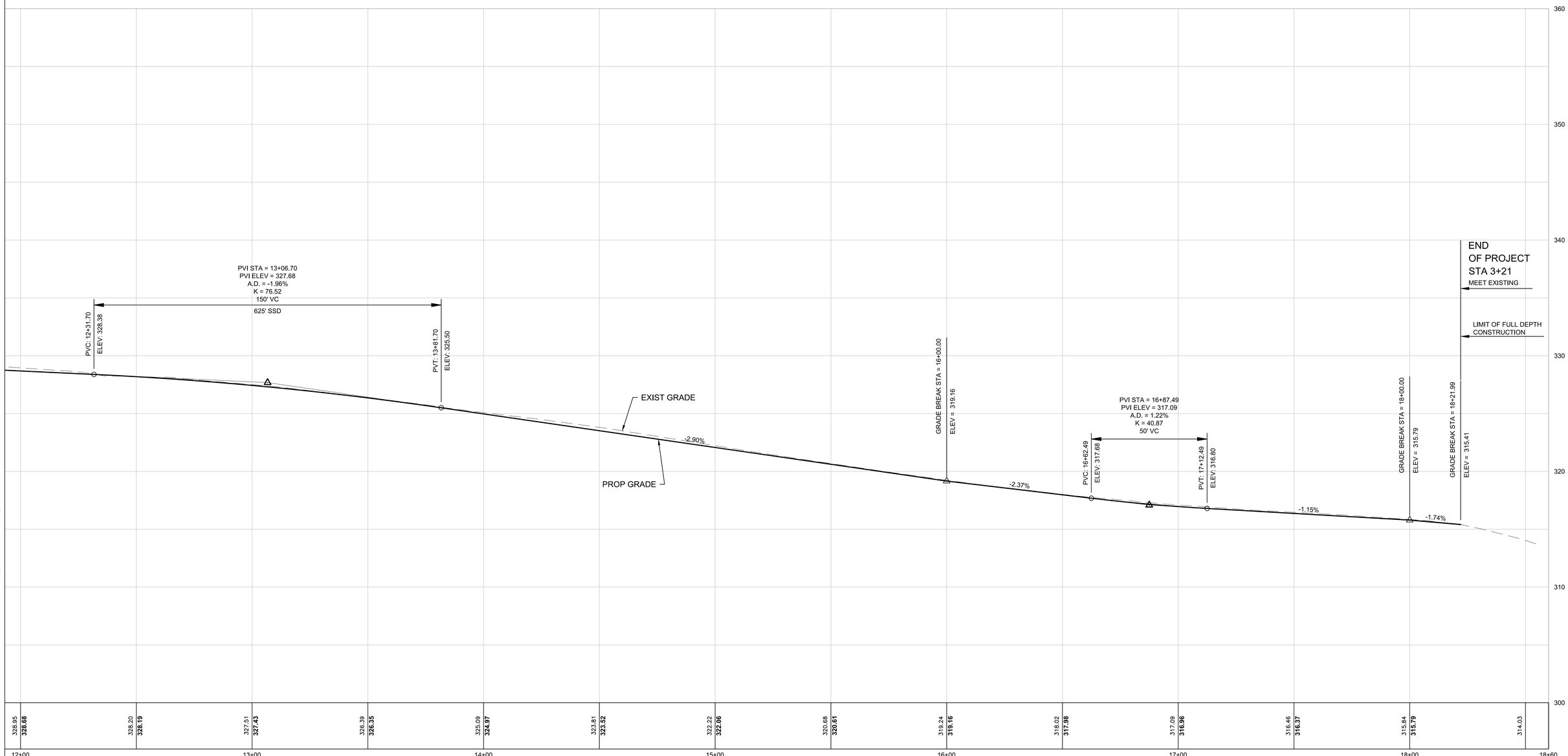
PROFILE - HIGH STREET

BETA JOB NO. 6182

ISSUE DATE 7/16/2020

SHEET NO. 25 OF 60

7/16/2020 10:51 AM O:\6100S\6182 - CLINTON - HIGH ST STREETSCAPE\DRAWING FILES\PLANSET\6182 PROFILE.DWG (BETA STB BW.STB)



NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: NJM

DESIGNED BY: CJT

CHECKED BY: TJL

REGISTERED PROFESSIONAL

PREPARED BY

BETA
www.BETA-Inc.com

SUBCONSULTANT

SCALE

HOR. SCALE IN FEET: 1"=20'
20 0 20 40
4 0 4 8
VER. SCALE IN FEET: 1"=4'

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE

HIGH STREET STREETSCAPE
CLINTON, MA

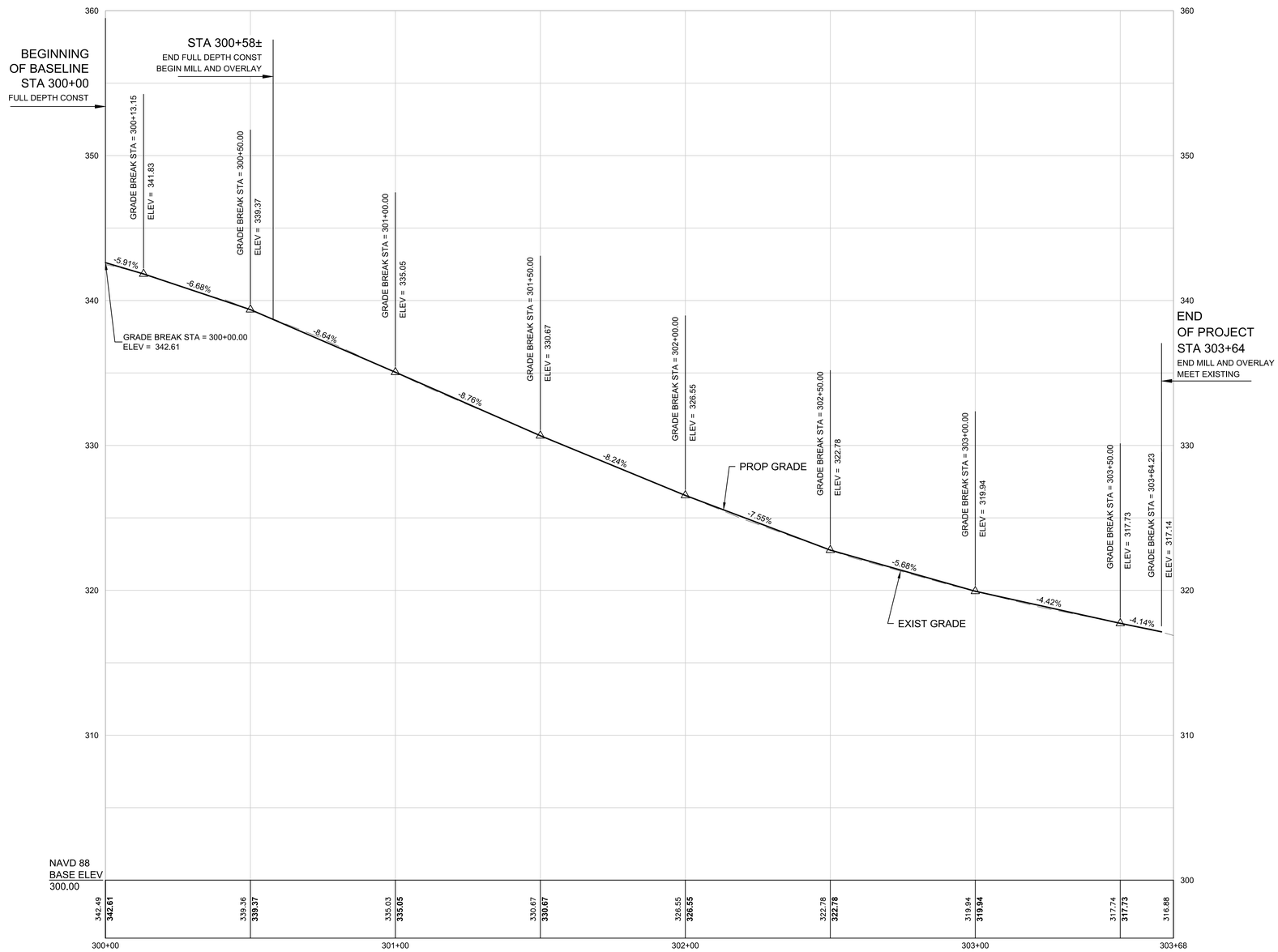
PROFILE - HIGH STREET

BETA JOB NO. 6182

ISSUE DATE 7/16/2020

SHEET NO. 26 OF 60

7/16/2020 10:51 AM O:\6100\S\6182 - CLINTON - HIGH ST STREETSCAPE\DRAWING FILES\PLANSET\6182 PROFILE.DWG (BETA STB BW.STB)



NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: NJM

DESIGNED BY: CJT

CHECKED BY: TJL

REGISTERED PROFESSIONAL

PREPARED BY

BETA
www.BETA-Inc.com

SUBCONSULTANT

SCALE

HOR. SCALE IN FEET: 1"=20'
20 0 20 40
4 0 4 8
VER. SCALE IN FEET: 1"=4'

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE

HIGH STREET STREETSCAPE
CLINTON, MA

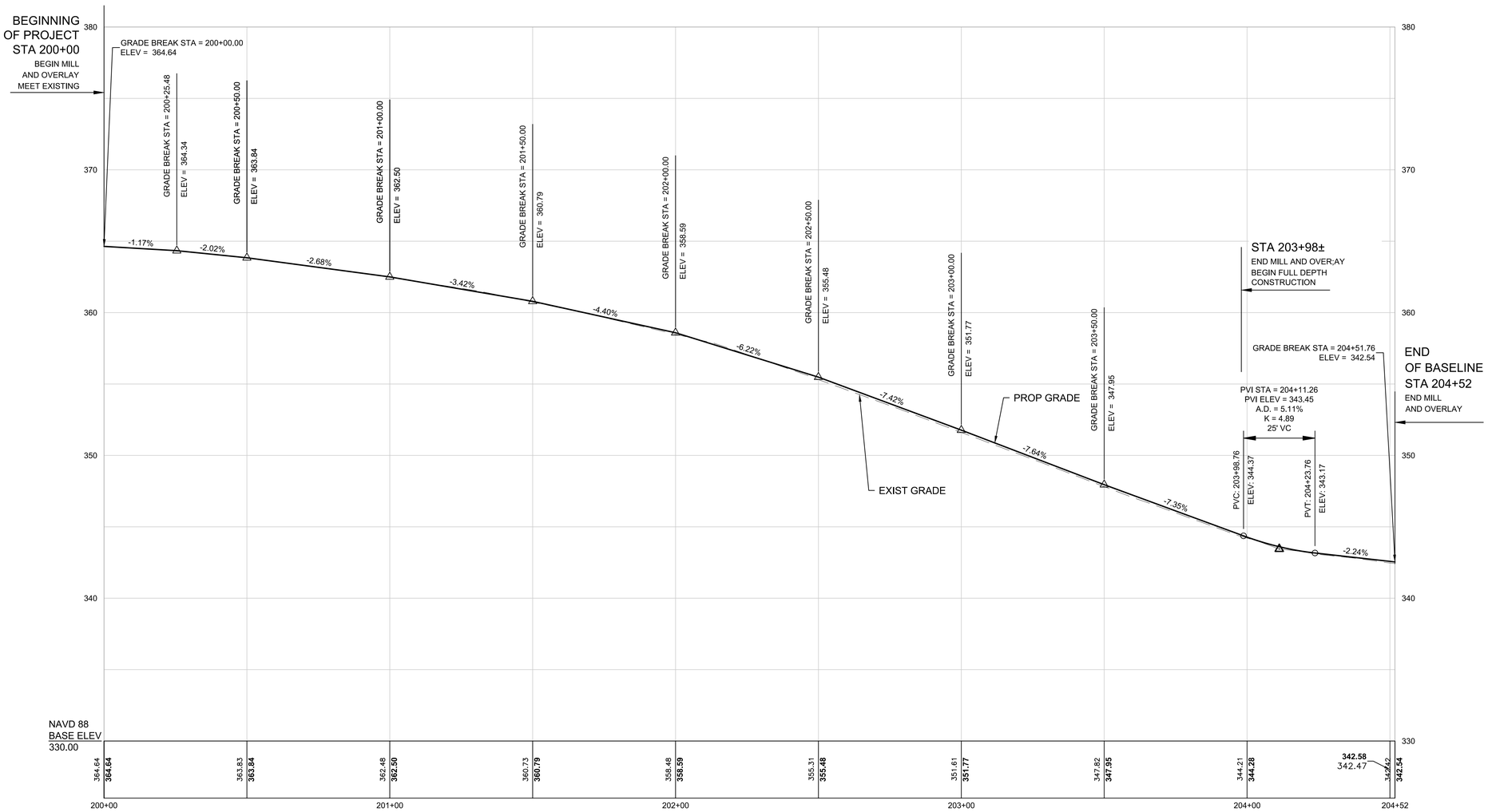
PROFILE - CHURCH STREET WEST

BETA JOB NO. 6182

ISSUE DATE 7/16/2020

SHEET NO. 27 OF 60

7/16/2020 10:51 AM O:\6100\S\6182 - CLINTON - HIGH ST STREETSCAPE\DRAWING FILES\PLANSET\6182 PROFILE.DWG (BETA STB BW.STB)



NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: NJM

DESIGNED BY: CJT

CHECKED BY: TJL

REGISTERED PROFESSIONAL

PREPARED BY

BETA
www.BETA-Inc.com

SUBCONSULTANT

SCALE

HOR. SCALE IN FEET: 1"=20'
20 0 20 40
4 0 4 8
VER. SCALE IN FEET: 1"=4'

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE

HIGH STREET STREETSCAPE
CLINTON, MA

PROFILE - CHURCH STREET EAST

BETA JOB NO. 6182

ISSUE DATE 7/16/2020

SHEET NO. 28 OF 60

7/16/2020 10:52 AM O:\6100S\6182 - CLINTON - HIGH ST STREETSCAPE\DRAWING FILES\PLANSET\6182 PROFILE.DWG (BETA STB BW.STB)

LEGEND

XXX.XX	PROP. ROADWAY GRADE
XXX.XX	PROP. TOP OF CURB/ SURFACE OF SIDEWALK GRADE. 6" TYPICAL REVEAL WHERE TOP OF CURB ELEVATION NOT PROVIDED
(XXX.XX)	MEET EXISTING GRADE
X" R	CURB REVEAL

NOTES:

1. ON HIGH STREET AND CHURCH STREET, THE CONTRACTOR SHALL USE EXTREME CARE TO MATCH EXISTING BACK OF SIDEWALK ELEVATIONS AT BOTH SIDES OF ALL STEPS, WALKS, DRIVEWAYS, DOORWAYS AND OTHER CONTROL POINTS, UNLESS OTHERWISE NOTED ON THE PLANS. PRIOR TO ANY CONSTRUCTION, THE CONTRACTOR SHALL FIELD WALK THE PROJECT WITH THE ENGINEER TO VERIFY REQUIREMENTS AT ALL CONTROL POINTS.
2. ALL CURB REVEAL TO TYPICALLY BE 6" UNLESS OTHERWISE SHOWN.
3. ALL SIDEWALK TO TYPICALLY HAVE 1.5% CROSS SLOPE UNLESS OTHERWISE SHOWN.
4. BRICK AND LANDSCAPED STRIPS HAVE VARYING CROSS SLOPE, WITH POSITIVE DRAINAGE TO THE ROADWAY.
5. CONTRACTOR TO VERIFY POSITIVE DRAINAGE TO CB, GRADE AS REQUIRED.
6. ANY CHANGES TO GRADING PLAN BY THE CONTRACTOR SHALL BE VERIFIED BY THE ENGINEER.

NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: NJM

DESIGNED BY: CJT

CHECKED BY: TJL

REGISTERED PROFESSIONAL

PREPARED BY

BETA
www.BETA-Inc.com

SUBCONSULTANT

SCALE

20 0 20 40

SCALE IN FEET: 1"=20'

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE

HIGH STREET STREETSCAPE
CLINTON, MA

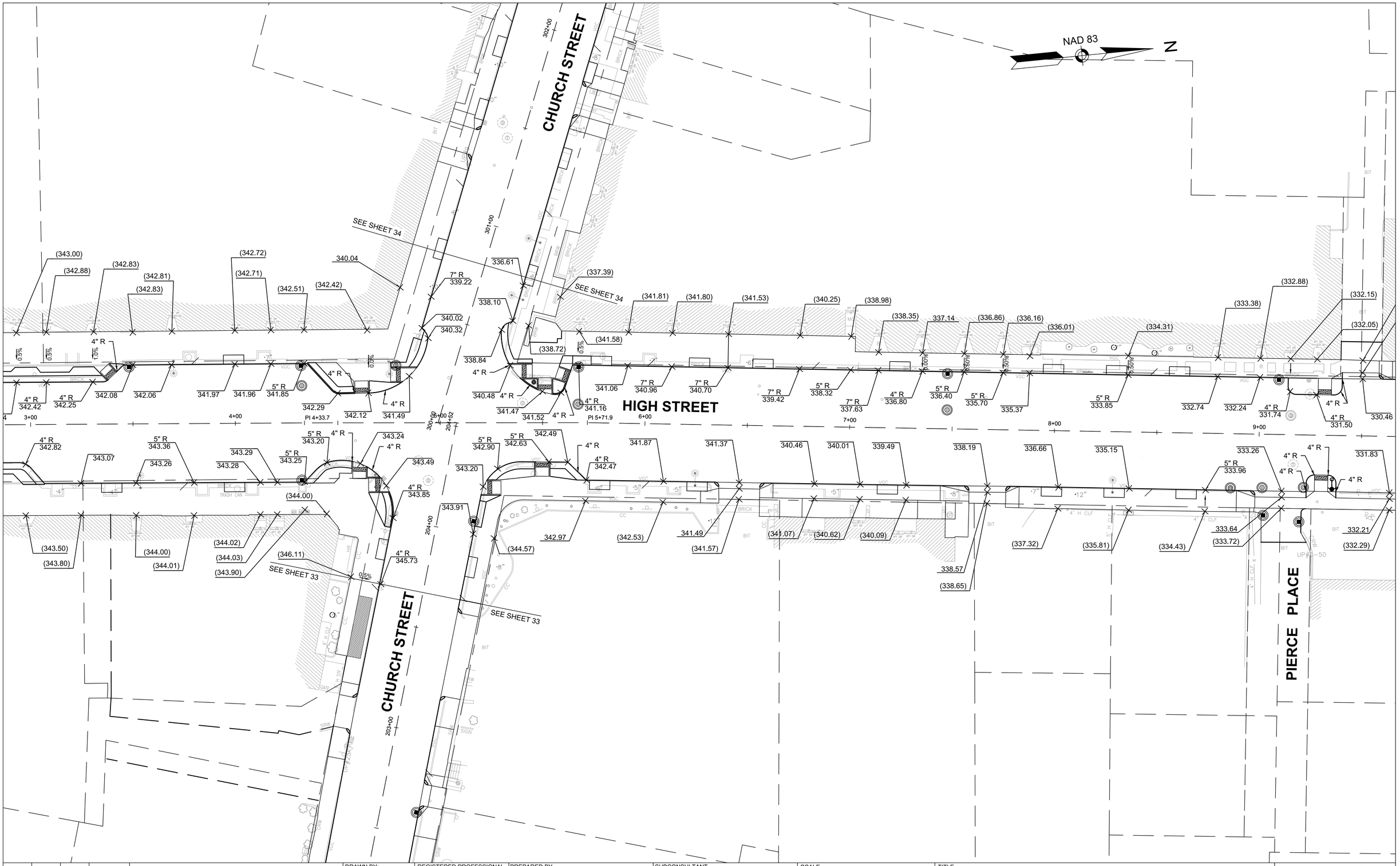
GRADING PLAN

BETA JOB NO. 6182

ISSUE DATE 7/16/2020

SHEET NO. 29 OF 60

O:\6100\S\6182 - CLINTON - HIGH ST STREETSCAPE\DRAWING FILES\PLANSET\6182 GRADING PLAN.DWG (BETA STB BW.STB)



NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: NJM

DESIGNED BY: CJT

CHECKED BY: TJL

REGISTERED PROFESSIONAL

PREPARED BY

BETA
www.BETA-Inc.com

SUBCONSULTANT

SCALE

20 0 20 40
SCALE IN FEET: 1"=20'

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE

HIGH STREET STREETSCAPE
CLINTON, MA

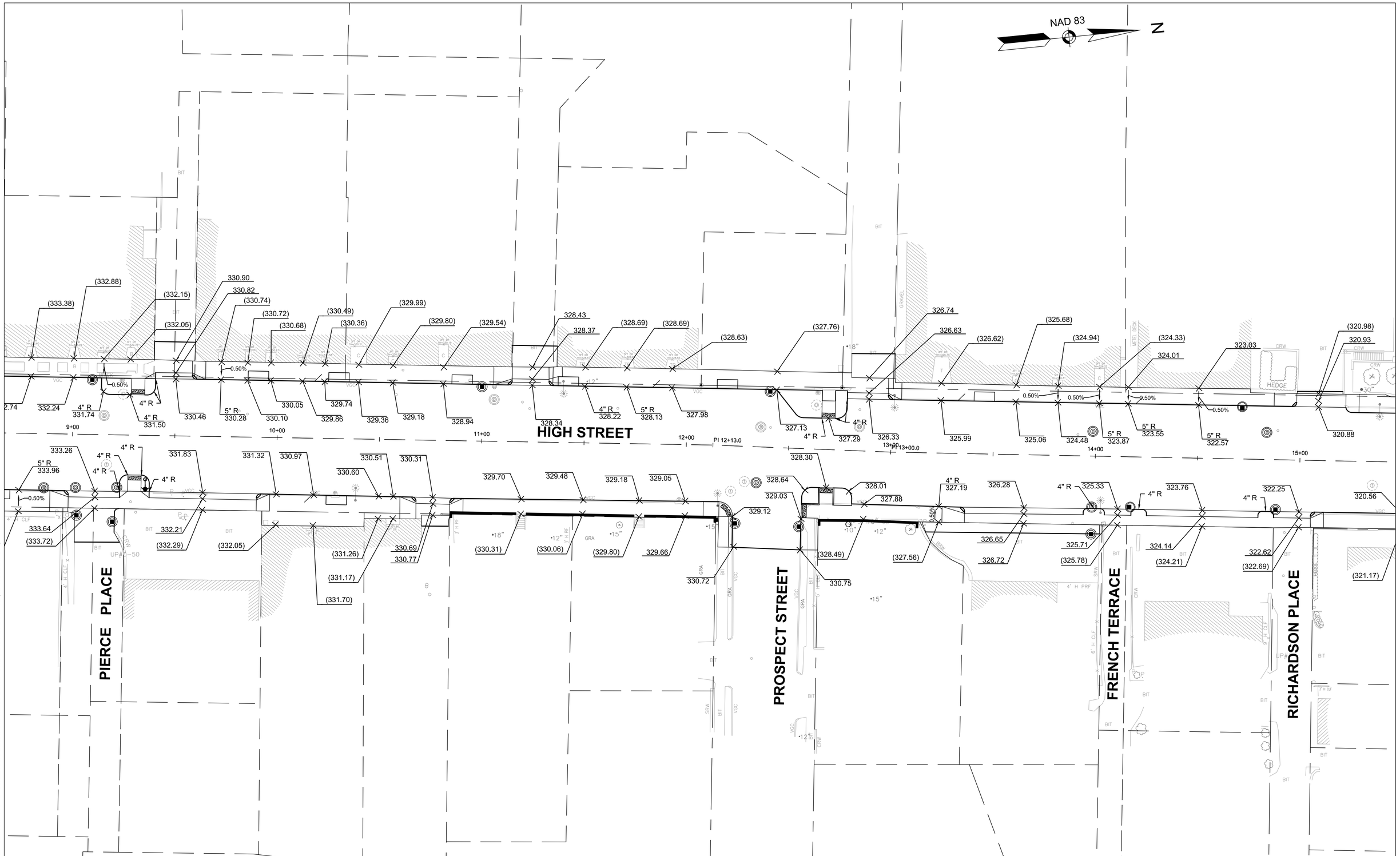
GRADING PLAN

BETA JOB NO. 6182

ISSUE DATE 7/16/2020

SHEET NO. 30 OF 60

O:\6100S\6182 - CLINTON - HIGH ST STREETSCAPE\DRAWING FILES\PLANSET\6182 GRADING PLAN.DWG (BETA STB BW.STB)



NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: NJM

DESIGNED BY: CJT

CHECKED BY: TJL

REGISTERED PROFESSIONAL

PREPARED BY

BETA
www.BETA-Inc.com

SUBCONSULTANT

SCALE

20 0 20 40

SCALE IN FEET: 1"=20'

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE

HIGH STREET STREETSCAPE
CLINTON, MA

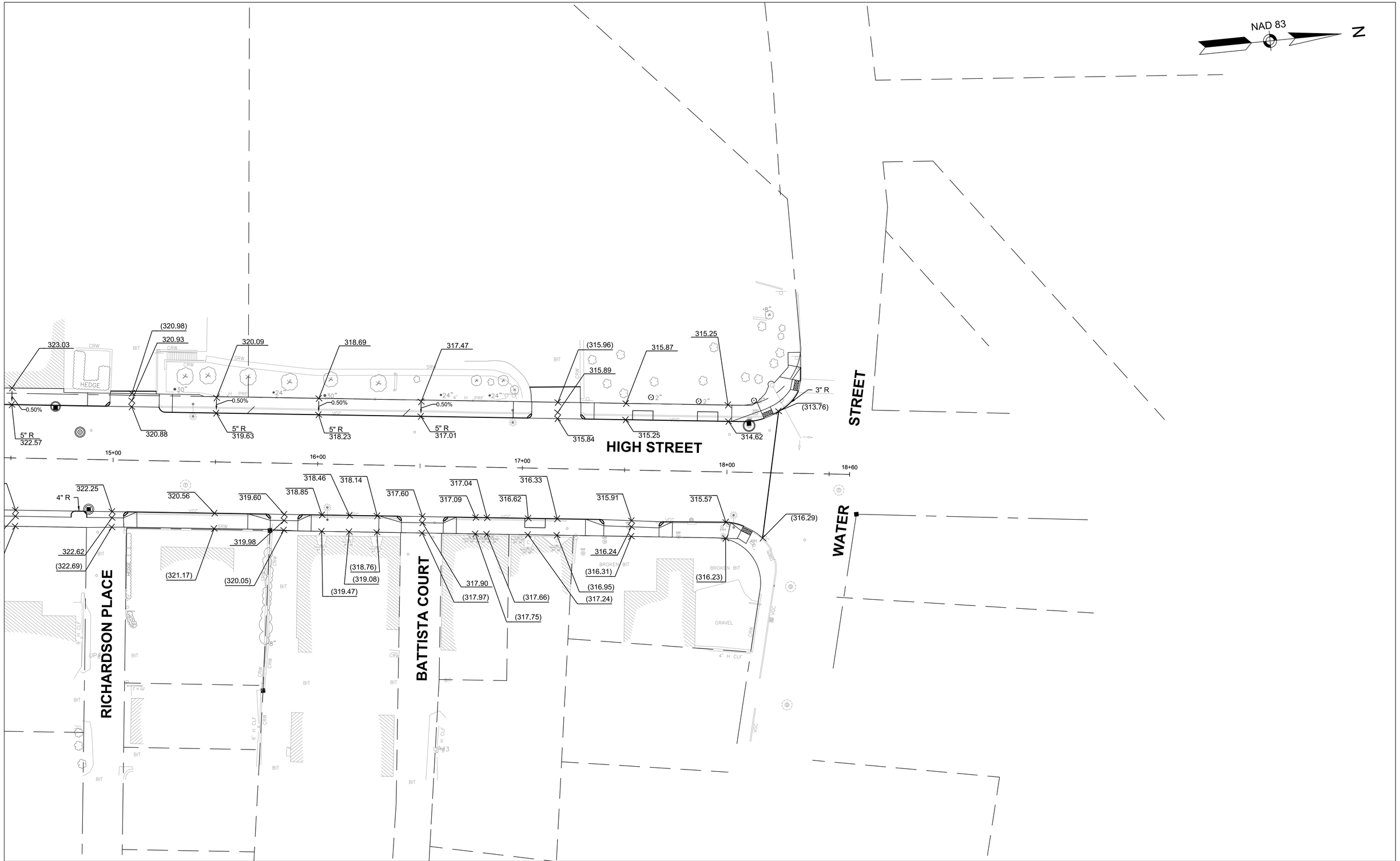
GRADING PLAN

BETA JOB NO. 6182

ISSUE DATE 7/16/2020

SHEET NO. 31 OF 60

Q:\6100\S\6182 - CLINTON - HIGH ST STREETSCAPE\DRAWING FILES\PLANSET\6182 GRADING PLAN.DWG (BETA STB BW.STB)



NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: NJM

DESIGNED BY: CJT

CHECKED BY: TJL

REGISTERED PROFESSIONAL

PREPARED BY

BETA
www.BETA-Inc.com

SUBCONSULTANT

SCALE

20 0 20 40

SCALE IN FEET: 1"=20'

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE

HIGH STREET STREETSCAPE
CLINTON, MA

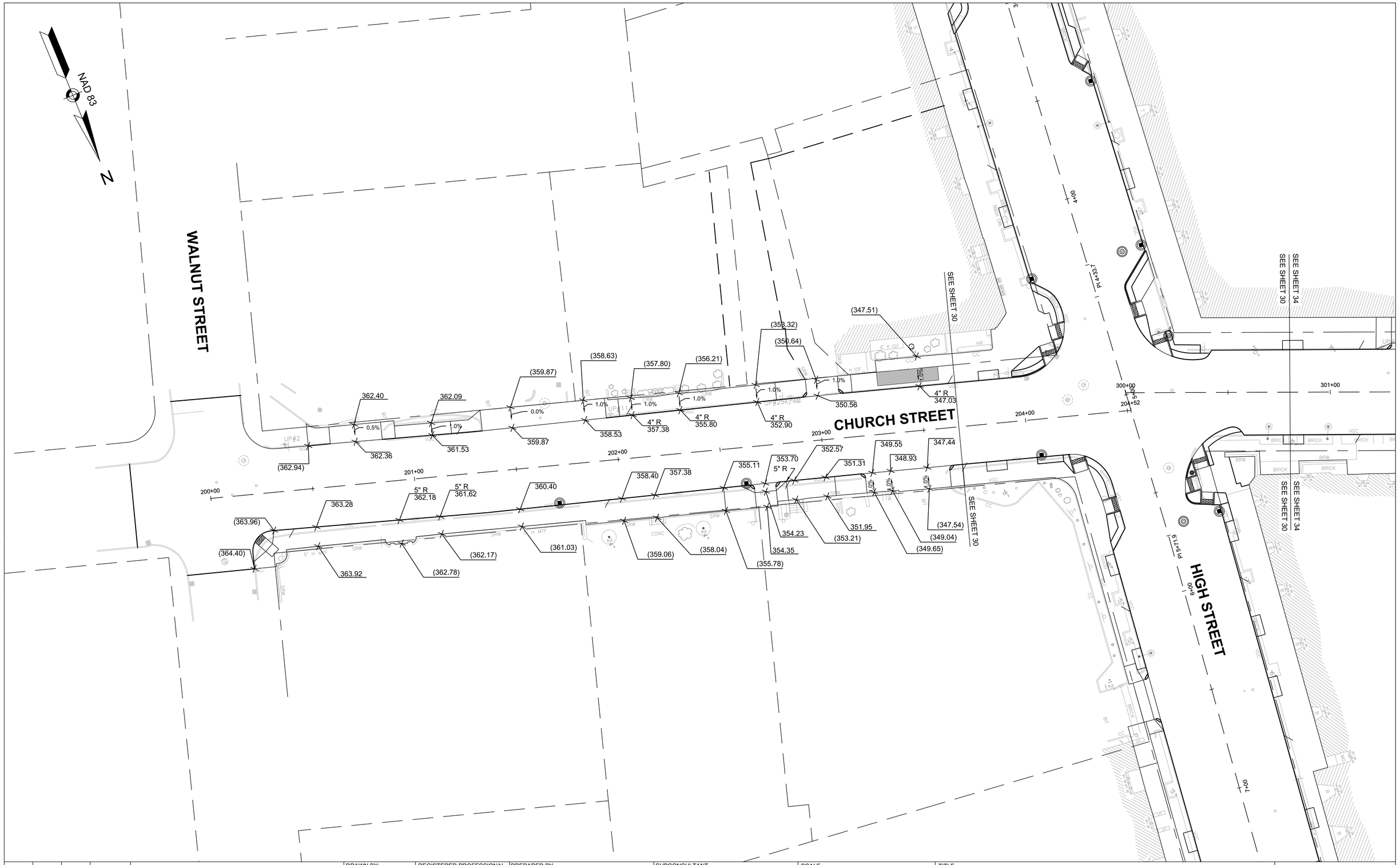
GRADING PLAN

BETA JOB NO. 6182

ISSUE DATE 7/16/2020

SHEET NO. 32 OF 60

O:\6100\S\6182 - CLINTON - HIGH ST STREETSCAPE\DRAWING FILES\PLANSET\6182 GRADING PLAN.DWG (BETA STB BW.STB)



NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: NJM

DESIGNED BY: CJT

CHECKED BY: TJL

REGISTERED PROFESSIONAL

PREPARED BY: BETA www.BETA-Inc.com

SUBCONSULTANT

SCALE: 20 0 20 40 — SCALE IN FEET: 1"=20'

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE

HIGH STREET STREETSCAPE
CLINTON, MA

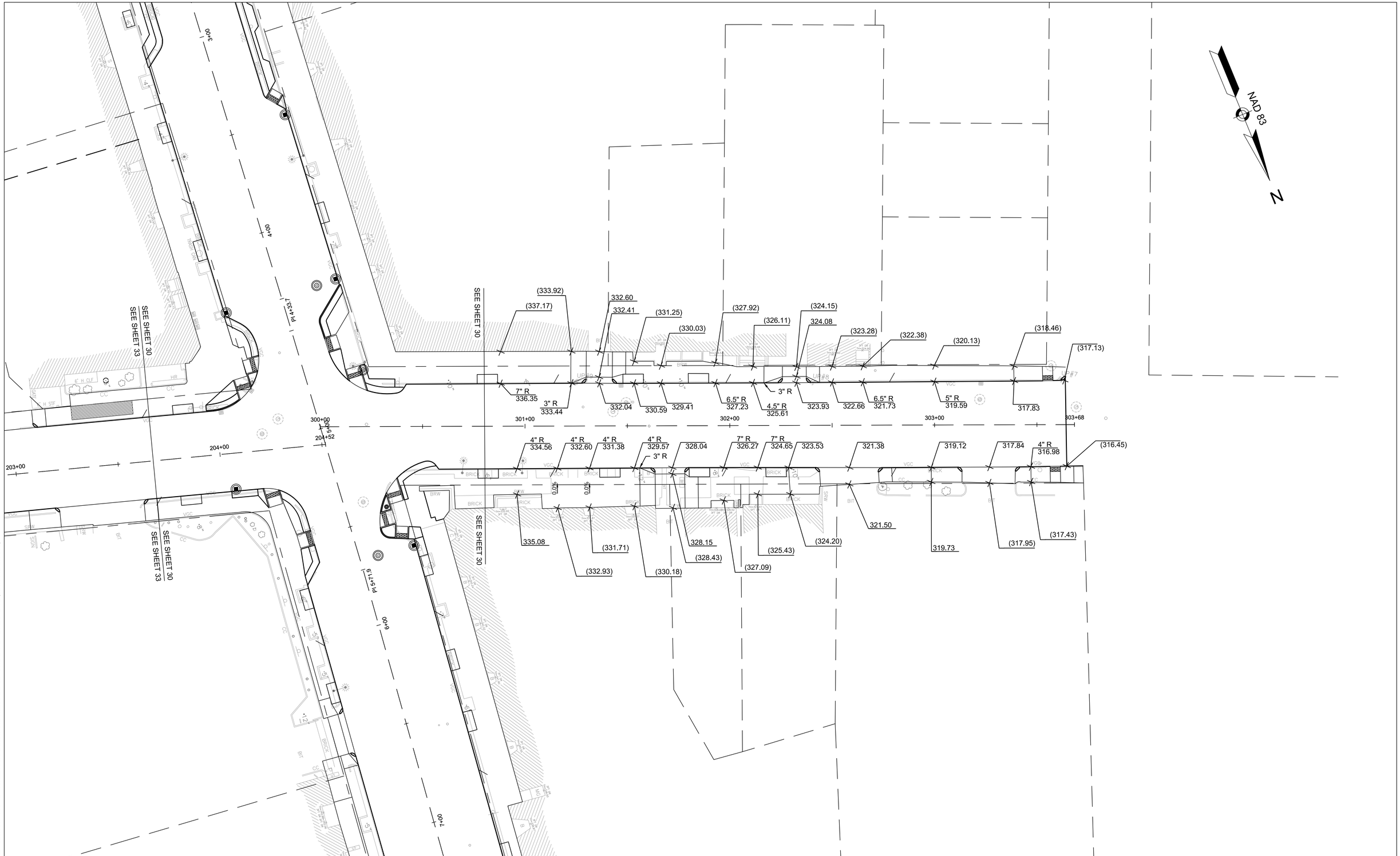
GRADING PLAN

BETA JOB NO. 6182

ISSUE DATE 7/16/2020

SHEET NO. 33 OF 60

O:\6100S\6182 - CLINTON - HIGH ST STREETSCAPE\DRAWING FILES\PLANSET\6182 GRADING PLAN.DWG (BETA STB BW.STB)



NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: INITIALS

DESIGNED BY: INITIALS

CHECKED BY: INITIALS

REGISTERED PROFESSIONAL

PREPARED BY: BETA www.BETA-Inc.com

SUBCONSULTANT

SCALE: 20 0 20 40 — SCALE IN FEET: 1"=20'

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE

HIGH STREET STREETSCAPE
CLINTON, MA

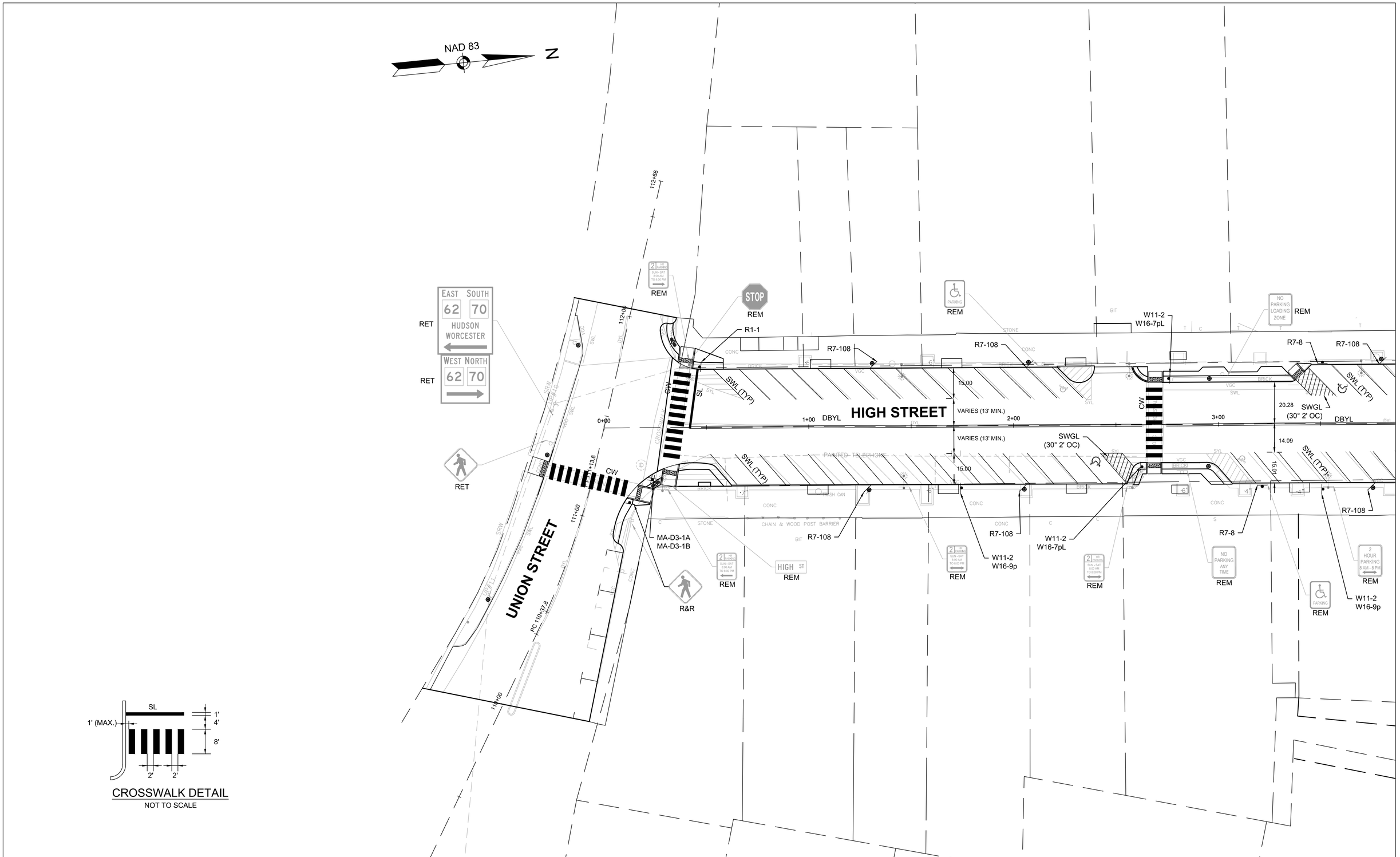
GRADING PLAN

BETA JOB NO. 6182

ISSUE DATE 7/16/2020

SHEET NO. 34 OF 60

O:\6100\S\6182 - CLINTON - HIGH ST STREETSCAPE\DRAWING FILES\PLANSET\6182 GRADING PLAN.DWG (BETA STB BW.STB)



CROSSWALK DETAIL

NOT TO SCALE

NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: INITIALS

DESIGNED BY: INITIALS

CHECKED BY: INITIALS

REGISTERED PROFESSIONAL

PREPARED BY: BETA www.BETA-Inc.com

SUBCONSULTANT

SCALE: 20 0 20 40 — SCALE IN FEET: 1"=20'

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE

HIGH STREET STREETSCAPE
CLINTON, MA

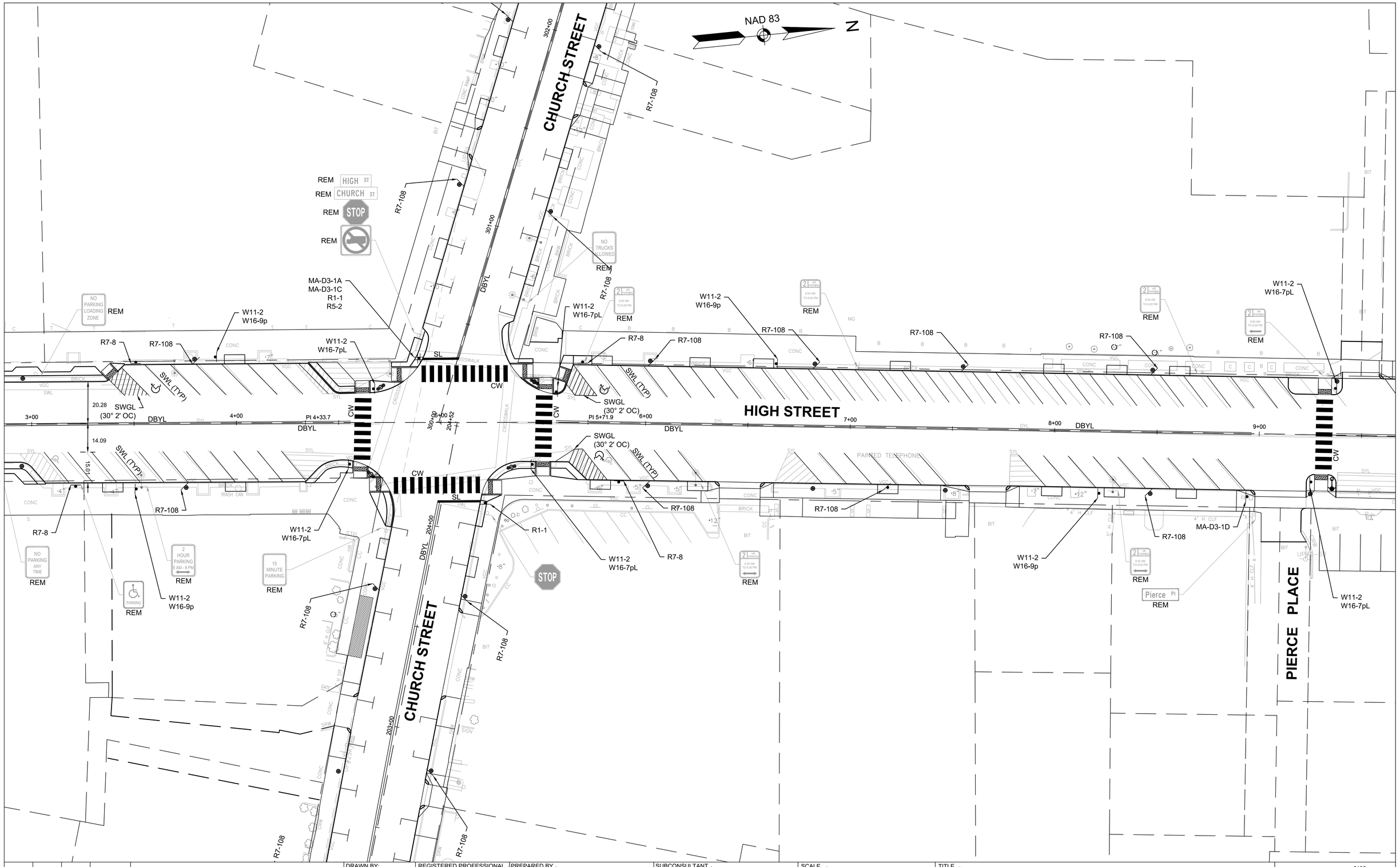
SIGN & PAVEMENT MARKING PLAN

BETA JOB NO. 6182

ISSUE DATE ##/##/####

SHEET NO. 35 OF 60

O:\6100\6182 - CLINTON - HIGH ST STREETSCAPE\DRAWING FILES\PLANSET\6182 SIGN AND PAVEMENT MARKING PLAN.DWG (BETA STB BW.STB)



NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: INITIALS
DESIGNED BY: INITIALS
CHECKED BY: INITIALS

REGISTERED PROFESSIONAL

PREPARED BY
BETA
www.BETA-Inc.com

SUBCONSULTANT

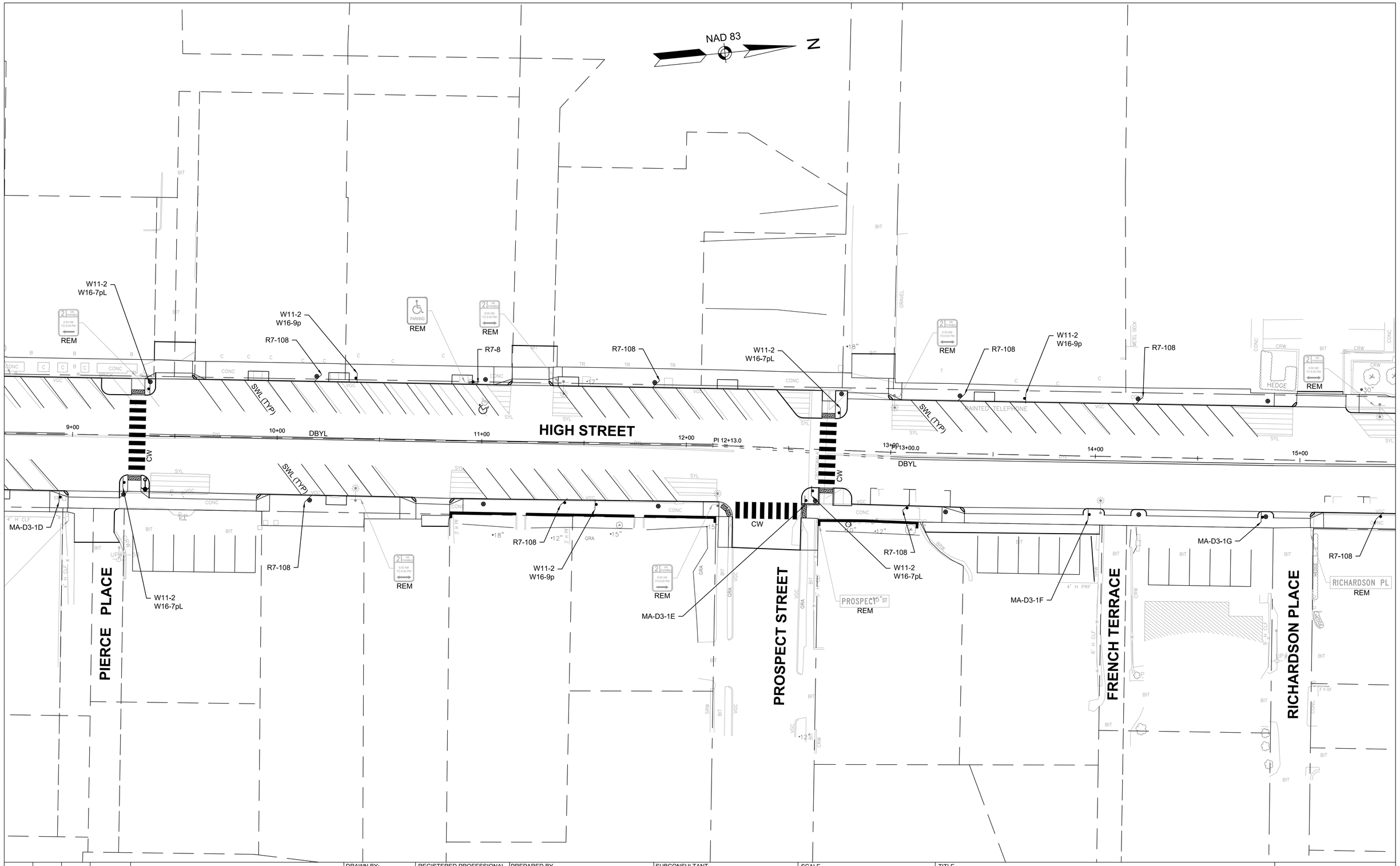
SCALE
20 0 20 40
SCALE IN FEET: 1"=20'
UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE
HIGH STREET STREETSCAPE
CLINTON, MA

SIGN & PAVEMENT MARKING PLAN

BETA JOB NO. 6182
ISSUE DATE ##/##/####
SHEET NO. 36 OF 60

O:\6100\S\6182 - CLINTON - HIGH ST STREETSCAPE\DRAWING FILES\PLANSET\6182 SIGN AND PAVEMENT MARKING PLAN.DWG (BETA STB BW.STB)



NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: INITIALS

DESIGNED BY: INITIALS

CHECKED BY: INITIALS

REGISTERED PROFESSIONAL

PREPARED BY

BETA
www.BETA-Inc.com

SUBCONSULTANT

SCALE

20 0 20 40

SCALE IN FEET: 1"=20'

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE

HIGH STREET STREETSCAPE
CLINTON, MA

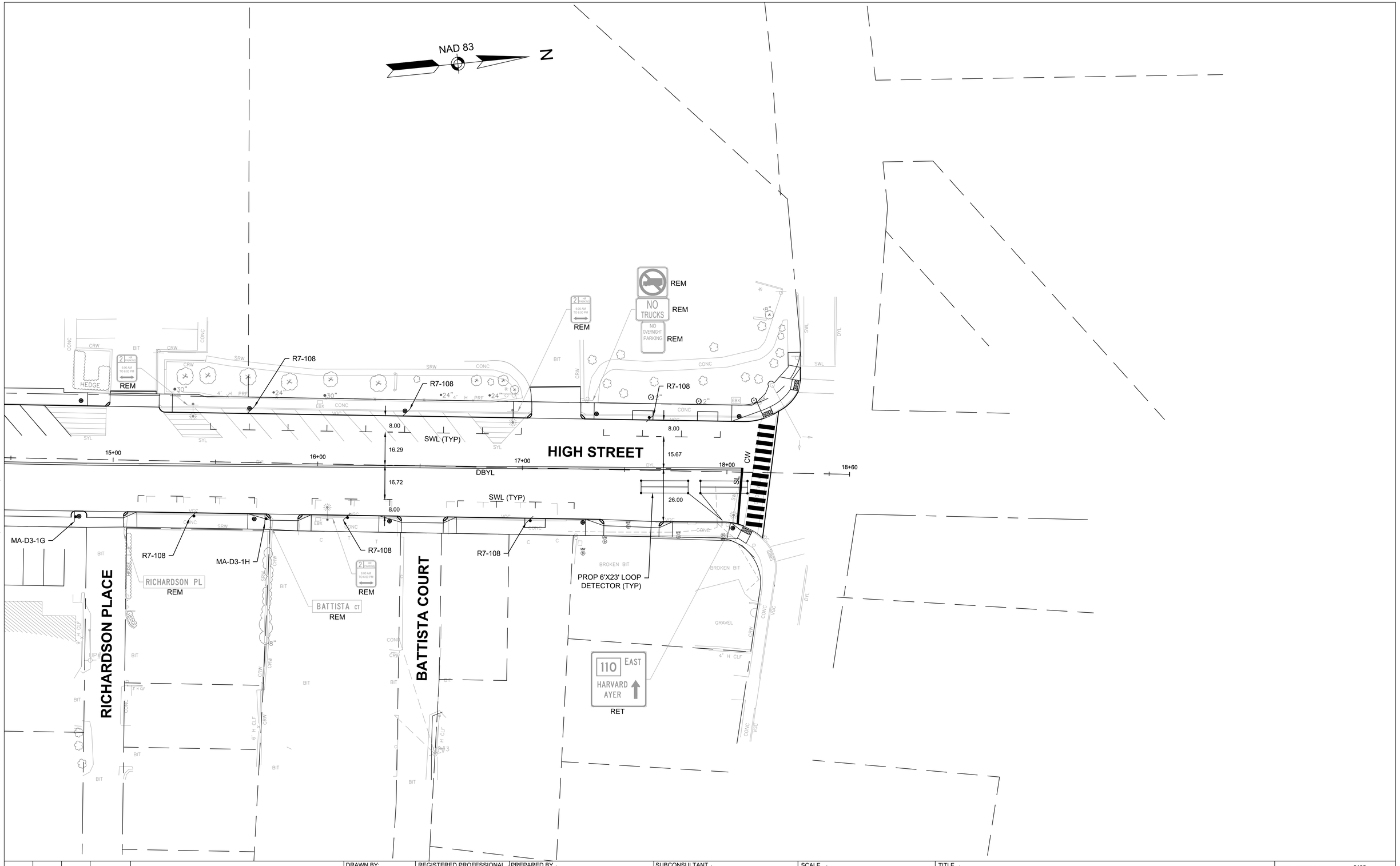
SIGN & PAVEMENT MARKING PLAN

BETA JOB NO. 6182

ISSUE DATE ##/##/####

SHEET NO. 37 OF 60

O:\6100\S\6182 - CLINTON - HIGH ST STREETSCAPE\DRAWING FILES\PLANSET\6182 SIGN AND PAVEMENT MARKING PLAN.DWG (BETA STB BW, STB)



NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: INITIALS
DESIGNED BY: INITIALS
CHECKED BY: INITIALS

REGISTERED PROFESSIONAL

PREPARED BY: BETA www.BETA-Inc.com

SUBCONSULTANT

SCALE: 20 0 20 40 — SCALE IN FEET: 1"=20'

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE

HIGH STREET STREETSCAPE
CLINTON, MA

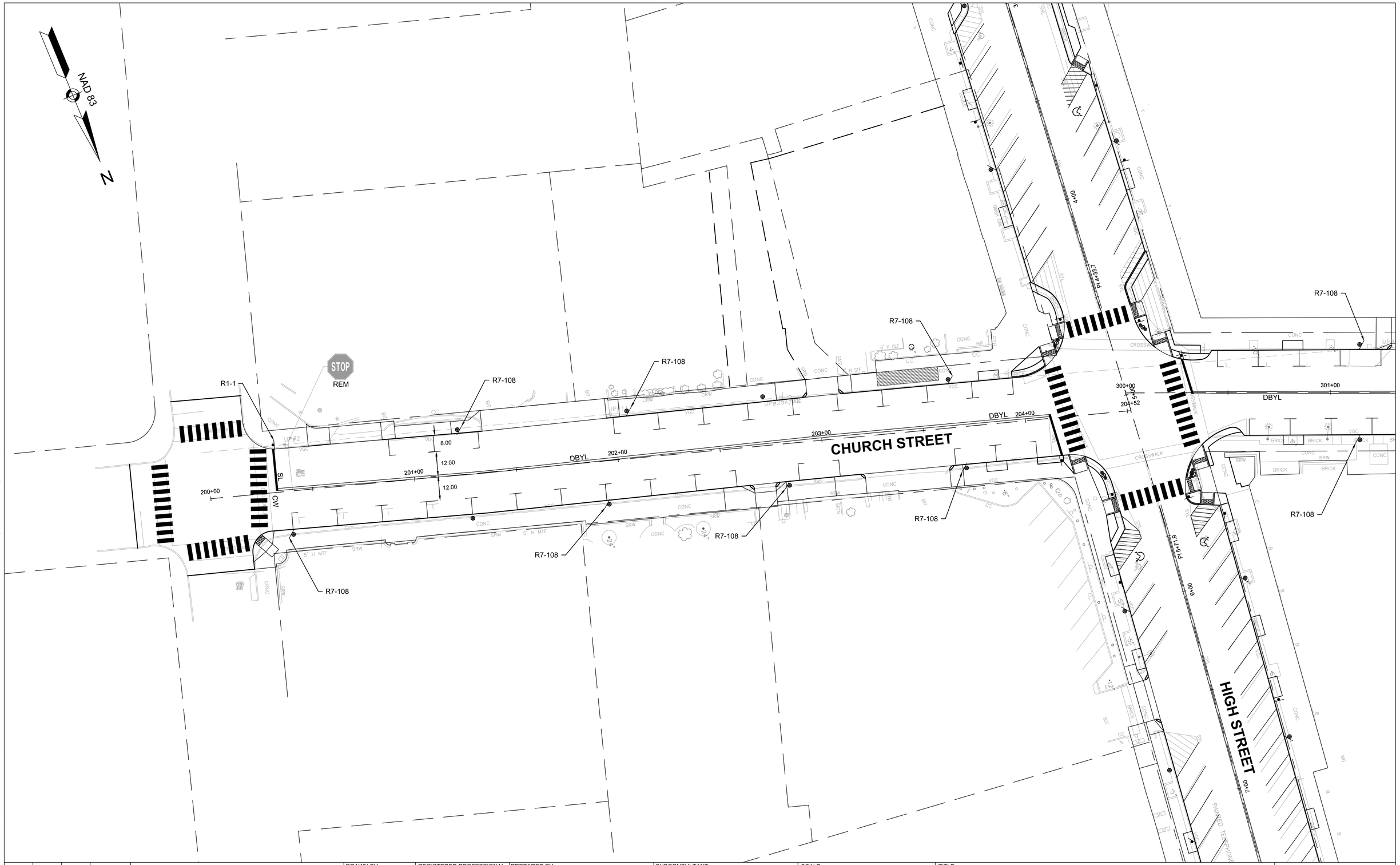
SIGN & PAVEMENT MARKING PLAN

BETA JOB NO. 6182

ISSUE DATE ##/##/####

SHEET NO. 38 OF 60

O:\6100\S\6182 - CLINTON - HIGH ST STREETSCAPE\DRAWING FILES\PLANSET\6182 SIGN AND PAVEMENT MARKING PLAN.DWG (BETA-STB BW.STB)



NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: INITIALS

DESIGNED BY: INITIALS

CHECKED BY: INITIALS

REGISTERED PROFESSIONAL

PREPARED BY: BETA www.BETA-Inc.com

SUBCONSULTANT

SCALE: 20 0 20 40 — SCALE IN FEET: 1"=20'

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE

HIGH STREET STREETSCAPE
CLINTON, MA

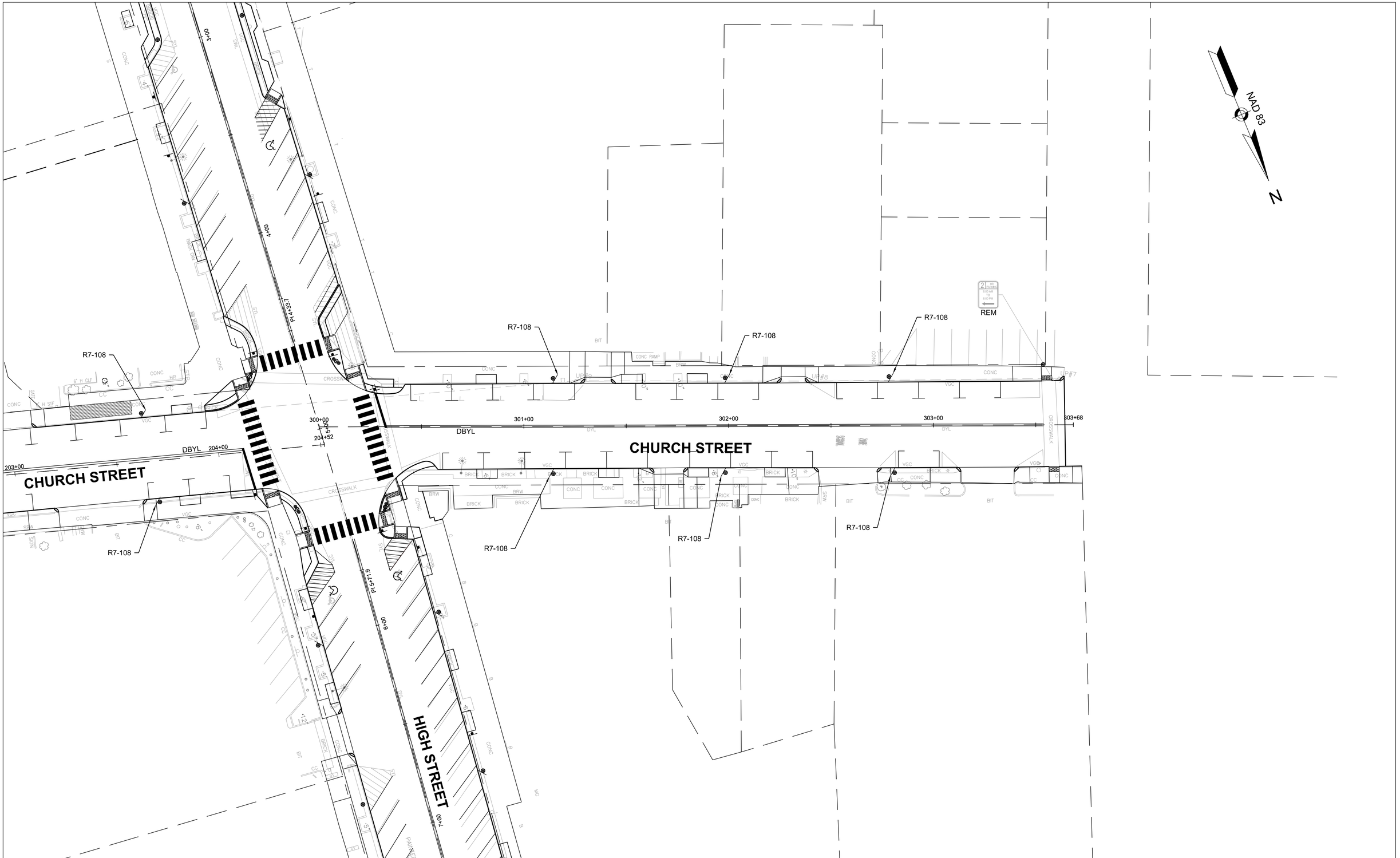
SIGN & PAVEMENT MARKING PLAN

BETA JOB NO. 6182

ISSUE DATE ##/##/####

SHEET NO. 39 OF 60

O:\6100S\6182 - CLINTON - HIGH ST STREETSCAPE\DRAWING FILES\PLANSET\6182 SIGN AND PAVEMENT MARKING PLAN.DWG (BETA STB BW.STB)



NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: INITIALS

DESIGNED BY: INITIALS

CHECKED BY: INITIALS

REGISTERED PROFESSIONAL

PREPARED BY

BETA
www.BETA-Inc.com

SUBCONSULTANT

SCALE

20 0 20 40

SCALE IN FEET: 1"=20'

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE

HIGH STREET STREETSCAPE
CLINTON, MA

SIGN & PAVEMENT MARKING PLAN

BETA JOB NO. 6182

ISSUE DATE ##/##/####

SHEET NO. 40 OF 60

O:\6100\6182 - CLINTON - HIGH ST STREETSCAPE\DRAWING FILES\PLANSET\6182 SIGN AND PAVEMENT MARKING PLAN.DWG (BETA STB BW.STB)

IDENTIFICATION NUMBER	SIZE OF SIGN		TEXT	DIMENSIONS (in)			NUMBER OF SIGNS REQUIRED	COLOR			POST SIZE AND NUMBER REQUIRED	UNIT AREA IN SQUARE FEET	AREA IN SQUARE FEET
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING	ARROW		BACK-GROUND	LEGEND	BORDER			
R1-1	30 in	30 in		SEE 2009 MUTCD STANDARDS			4	RED	WHITE	WHITE	P-5 4	6.25	25.00
R5-2	30 in	30 in					1	WHITE	BLACK	BLACK	P-5 1	6.25	50.00
R7-8	12 in	18 in					5	WHITE	GREEN	GREEN	P-5 5	1.50	7.50
R7-108	12 in	18 in					39	WHITE	GREEN	GREEN	P-5 (5) MOUNT ON LIGHT POST (32)	1.50	58.50
W11-2	30 in	30 in					1	WHITE	BLACK	BLACK	P-5 1	6.25	50.00
W16-7pL	24 in	12 in					1	WHITE	BLACK	BLACK	P-5 1	2.00	50.00
W16-9P	24 in	12 in	AHEAD				12	FYG	BLACK	BLACK	MOUNT W/ W11-2	2.00	24.00

IDENTIFICATION NUMBER	SIZE OF SIGN		TEXT	DIMENSIONS (in)			NUMBER OF SIGNS REQUIRED	COLOR			POST SIZE AND NUMBER REQUIRED	UNIT AREA IN SQUARE FEET	AREA IN SQUARE FEET
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING	ARROW		BACK-GROUND	LEGEND	BORDER			
MA-D3-1A	36 in	12 in	High St	6D/ 4D	2.75 3.25		12	GREEN	WHITE	WHITE	P-5 6	EACH	EACH
MA-D3-1B	36 in	12 in	Union St	6D/ 4D	3 3		2	GREEN	WHITE	WHITE	MOUNT W/ MA-D3-1A	EACH	EACH
MA-D3-1C	42 in	12 in	Church St	6D/ 4D	3 3		2	GREEN	WHITE	WHITE	MOUNT W/ MA-D3-1A	EACH	EACH
MA-D3-1D	36 in	12 in	Pierce Pl	6D/ 4D	3 3		2	GREEN	WHITE	WHITE	MOUNT W/ MA-D3-1A	EACH	EACH
MA-D3-1E	48 in	12 in	Prospect St	6D/ 4D	2.75 3.25		2	GREEN	WHITE	WHITE	P-5 1	EACH	EACH
MA-D3-1F	42 in	12 in	French Ter	6D/ 4D	3 3		2	GREEN	WHITE	WHITE	MOUNT W/ R1-1	EACH	EACH
MA-D3-1G	54 in	12 in	Richardson Pl	6D/ 4D	3 3		2	GREEN	WHITE	WHITE	MOUNT W/ MA-D3-1A	EACH	EACH
MA-D3-1H	42 in	12 in	Battista Ct	6D/ 4D	3 3		2	GREEN	WHITE	WHITE	MOUNT W/ MA-D3-1A	EACH	EACH

NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: INITIALS

DESIGNED BY: INITIALS

CHECKED BY: INITIALS

REGISTERED PROFESSIONAL

For Review Only

PREPARED BY

BETA
www.BETA-Inc.com

SUBCONSULTANT

SCALE

NONE

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE

HIGH STREET STREETSCAPE
CLINTON, MA

TRAFFIC SIGN SUMMARY

BETA JOB NO. 6182

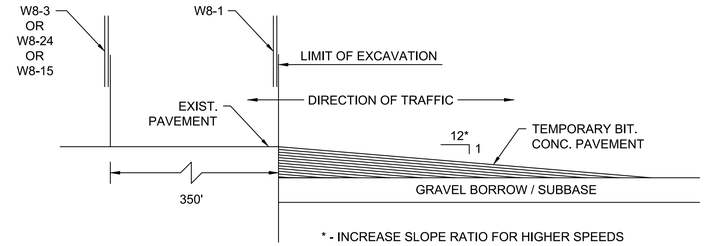
ISSUE DATE 7/16/2020

SHEET NO. 41 OF 60

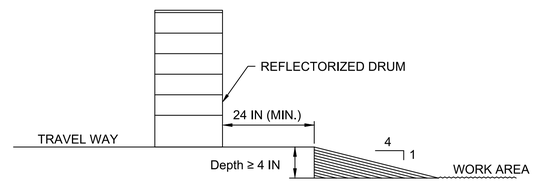
7/16/2020 10:53 AM O:\6100\S\6182 - CLINTON - HIGH ST STREETSCAPE\DRAWING FILES\PLANSET\6182 SIGN SUMMARY.DWG (BETA STB BW.STB)

NOTES:

1. ALL TEMPORARY TRAFFIC CONTROL WORK SHALL CONFORM TO THE 2009 EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) AND ALL REVISIONS.
2. ALL SIGN LEGENDS, BORDERS AND MOUNTING SHALL BE IN ACCORDANCE WITH THE MUTCD, EXCEPT THAT BACKGROUND COLOR SHALL BE FLUORESCENT ORANGE, IN ACCORDANCE WITH MASSDOT SPECIFICATIONS.
3. TEMPORARY CONSTRUCTION SIGNING AND ALL OTHER TRAFFIC CONTROL DEVICES SHALL BE IN PLACE PRIOR TO THE START OF ANY WORK.
4. TEMPORARY CONSTRUCTION SIGNING, BARRICADES AND ALL OTHER NECESSARY WORK ZONE TRAFFIC CONTROL DEVICES SHALL BE REMOVED FROM THE HIGHWAY OR COVERED WHEN THEY ARE NOT REQUIRED FOR CONTROL OF TRAFFIC.
5. SIGNS AND SIGN SUPPORTS LOCATED ON OR NEAR THE TRAVELED WAY, AND REFLECTORIZED PLASTIC DRUMS WITH LIGHTING DEVICES MOUNTED ON THEM, MUST PASS THE CRITERIA SET FORTH IN THE "MANUAL FOR ACCESSING SAFETY HARDWARE" (MASH).
6. CONTRACTORS SHALL NOTIFY EACH ABUTTER AT LEAST 24 HOURS IN ADVANCE OF THE START OF ANY WORK THAT WILL REQUIRE THE TEMPORARY CLOSURE OF ACCESS, SUCH AS CONDUIT INSTALLATION, EXISTING PAVEMENT EXCAVATION, TEMPORARY DRIVEWAY PAVEMENT PLACEMENT AND SIMILAR OPERATIONS.
7. THE FIRST TEN PLASTIC DRUMS OF A TAPER SHALL BE MOUNTED WITH SEQUENTIAL FLASHING LIGHTS.
8. THE ADVISORY SPEED LIMIT, IF REQUIRED, SHALL BE DETERMINED BY THE ENGINEER.
9. DISTANCES ARE A GUIDE AND MAY BE ADJUSTED IN THE FIELD BY THE ENGINEER.
10. MAXIMUM SPACING OF TRAFFIC DEVICES IN A TAPER (DRUMS OR CONES) IS EQUAL IN FEET TO THE SPEED LIMIT IN MPH.
11. MINIMUM LANE WIDTH IS TO BE 11 FEET UNLESS OTHERWISE SHOWN. MINIMUM LANE WIDTH TO BE MEASURED FROM THE EDGE OF DRUMS OR MEDIAN BARRIER.
12. ALL SIGNS SHALL BE MOUNTED ON THEIR OWN STANDARD SIGN SUPPORTS.
13. TEMPORARY CONSTRUCTION SIGNING AND ALL OTHER NECESSARY WORK ZONE TRAFFIC CONTROL NOT COVERED IN THE PLAN SHALL REFER TO MASSDOT "STANDARD DETAILS AND DRAWINGS FOR THE DEVELOPMENT OF TRAFFIC MANAGEMENT PLANS".



LONGITUDINAL DROP-OFF DETAIL
NOT TO SCALE



LATERAL DROP-OFF DETAIL
NOT TO SCALE

GENERAL CONSTRUCTION STAGES

1. UTILITY WORK
   a. CONSTRUCT ALL PROPOSED UTILITIES AND ADJUST, ABANDON, REMOVE, OR REMOVE AND RESET, ALL EXISTING UTILITIES, AS SHOWN ON THE PLANS.
   b. CONSTRUCT UNDERGROUNDING OF SERVICES CONDUITS AND DUCT BOXES.
2. WIDENING
   SET CURBING AND PERFORM BOX WIDENING.
3. FULL DEPTH CONSTRUCTION/BOX WIDENING
   a. EXCAVATE ROADWAY FOR WIDENING; PLACE THE GRAVEL SUBBASE, WHILE MAINTAINING TRAFFIC IN EACH DIRECTION ON THE EXISTING ROADWAY.
   b. PLACE CRUSHED STONE AND HOT MIX ASPHALT BASE COURSE OR H.E.S. CONCRETE ON ENTIRE WIDENING ROADWAY.
4. TRAFFIC CONTROL
   INSTALL ALL TRAFFIC SIGNAL EQUIPMENT.
5. SIDEWALKS
   CONSTRUCT SIDEWALKS
6. TOP COURSE AND BINDER COURSE
   PLACE BINDER COURSE (WHERE REQUIRED) FOLLOWED BY TOP COURSE FOR THE ENTIRE LENGTH OF THE PROJECT.
7. PAVEMENT MARKINGS
   INSTALL PAVEMENT MARKINGS.

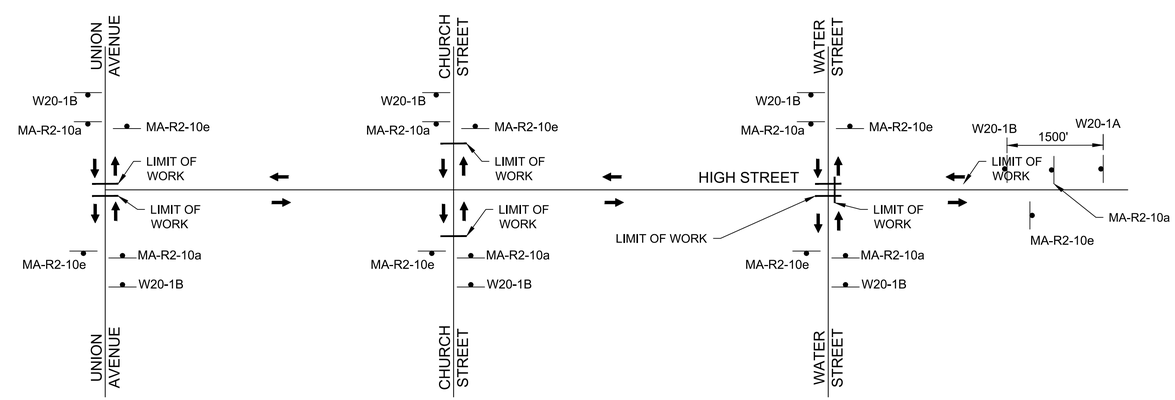
LEGEND:

- REFLECTORIZED PLASTIC DRUM
- TYPE III BARRICADE
- FLASHING ARROW PANNEL
- FLASHING ARROW PANNEL
- WORK ZONE
- DIRECTION OF TRAFFIC
- IMPACT ATTENUATOR
- MEDIAN BARRIER
- MEDIAN BARRIER WITH WARNING LIGHTS
- WORK VEHICLE
- TRUCK MOUNTED ATTENUATOR
- TRAFFIC OR PEDESTRIAN SIGNAL
- SIGN
- P — POLICE DETAIL
- F — FLAGGER

TAPER LENGTH

SPEED LIMIT	FORMULA
40 MPH or Less	$L=WS^2/60$
45 MPH or Greater	L=W x S

L = TAPER LENGTH IN FEET
W = WIDTH OF OFFSET IN FEET
S = POSTED SPEED IN MPH



INTERSECTION PROJECT
LIMIT SIGNING
NOT TO SCALE

NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: INITIALS
DESIGNED BY: INITIALS
CHECKED BY: INITIALS

REGISTERED PROFESSIONAL: For Review Only

PREPARED BY: BETA www.BETA-Inc.com

SUBCONSULTANT

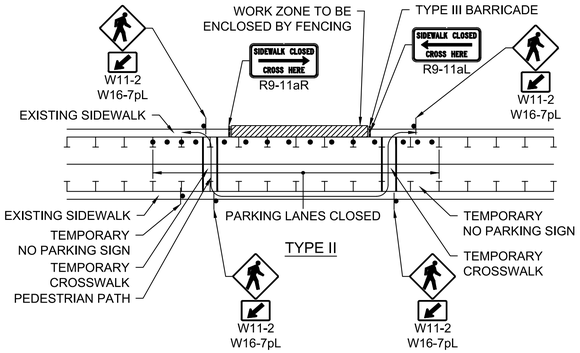
SCALE: NONE

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE: HIGH STREET STREETSCAPE
CLINTON, MA
TEMPORARY TRAFFIC CONTROL PLAN

BETA JOB NO. 6182
ISSUE DATE 7/16/2020
SHEET NO. 42 OF 60

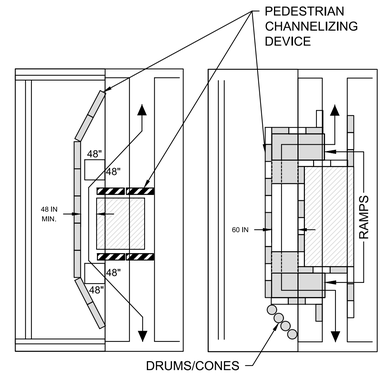
7/16/2020 10:53 AM O:\6100\S\6182 - CLINTON - HIGH ST STREETSCAPE\DRAWING FILES\PLANSET\6182 TRAFFIC MANAGEMENT PLAN.DWG (BETA STB BW.STB)



NOTES:

1. ADDITIONAL ADVANCE WARNING MAY BE NECESSARY.
2. CONTROLS ONLY FOR PEDESTRIAN TRAFFIC ARE SHOWN. VEHICULAR TRAFFIC SHOULD BE HANDLED AS SHOWN ELSEWHERE.
3. STREET LIGHTING SHOULD BE CONSIDERED WHEN LOCATING CONTROL DEVICES.
4. IF THE WORK ZONE DOES NOT PERMIT PEDESTRIANS TO TRAVEL ADJACENT TO IT, TEMPORARY CROSSWALKS WITH APPROPRIATE SIGNS SHOULD BE INSTALLED TO CROSS PEDESTRIANS TO THE OPPOSITE SIDE OF THE STREET AS SHOWN IN PEDESTRIAN BYPASS, AND AS DIRECTED BY THE ENGINEER. TEMPORARY CURB RAMPS WILL BE REQUIRED AT ALL TEMPORARY CROSSWALK LOCATIONS.
5. BYPASS IS TO BE USED IN CONJUCTION WITH THE PROPOSED LANE CLOSURE DETAILS AND DURING CONSTRUCTION STAGING, AS DIRECTED BY THE ENGINEER.
6. THE TEMPORARY SIDEWALK SHOULD BE A MINIMUM OF 4 FEET WIDE. IF THIS WALKWAY EXCEEDS 200 FEET THEN A 5 FOOT X 5 FOOT PASSING ZONE. (FOR SHORT TERM SETUPS < 10 HOURS, THIS CONDITION MAY BE WAIVED. A NOTE WOULD NEED TO BE INCLUDED IN THE TTCP THAT STATES HOW THE CONTRACTOR SHOULD ADDRESS THIS ISSUE.)

PEDESTRIAN BYPASS DETAILS
NOT TO SCALE

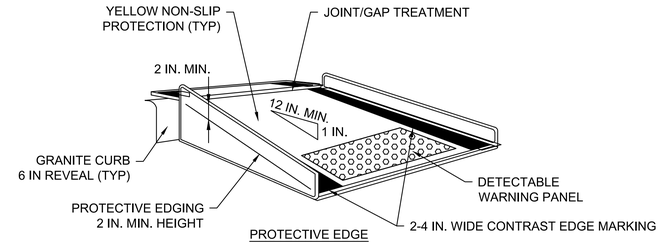


NOTES:

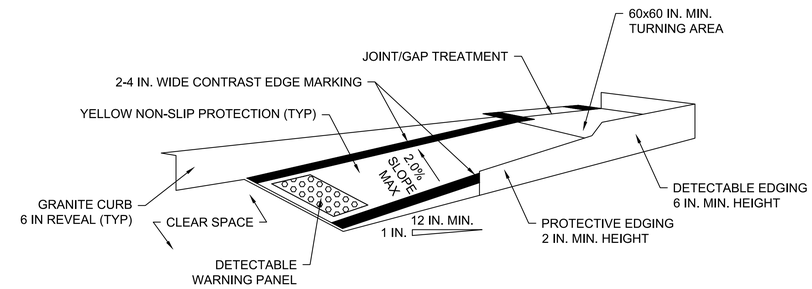
- DETAIL I IS CONSIDERED AN EXAMPLE OF A SHORT TERM CLOSURE AND PEDESTRIAN ASSISTANCE (PERSONEL) TO NAVIGATE AROUND THE CLOSURE/WORK AREA COULD BE CONSIDERED AS AN OPTION IN PLACE OF PROVIDING ADA/AAB DEVICES. DETAIL II IS CONSIDERED AN EXAMPLE OF A LONG TERM CLOSURE THAT WOULD REQUIRE ADDITIONAL ADA/AAB COMPLIANT DEVICES. IF A SIDEWALK CLOSURE OR RESTRICTION LASTS FOR MORE THAN ONE (1) WORK SHIFT THEN ADA/AAB COMPLIANCE SHALL BE FOLLOWED.
- WHEN EXISTING PEDESTRIAN FACILITIES ARE DISRUPTED, CLOSED, OR RELOCATED IN A TTC ZONE, TEMPORARY FACILITIES SHALL BE PROVIDED AND THEY SHALL BE DETECTABLE AND INCLUDE ACCESSIBILITY FEATURES CONSISTENT WITH THE FEATURES PRESENT IN THE EXISTING PEDESTRIAN FACILITY.
- A PEDESTRIAN CHANNELIZING DEVICE THAT IS DETECTABLE BY A PERSON WITH A VISUAL DISABILITY TRAVELING WITH THE AID OF A LONG CANE SHALL BE PLACED ACROSS THE FULL WIDTH OF THE CLOSED SIDEWALK.
- WHEN USED, TEMPORARY RAMPS SHALL COMPLY WITH AMERICANS WITH DISABILITIES ACT (SEE FIGURES).
- THE ALTERNATE PATHWAY SHOULD HAVE A SMOOTH CONTINUOUS HARD SURFACE FOR THE ENTIRE LENGTH OF THE TEMPORARY PEDESTRIAN FACILITY.
- THE TEMPORARY SIDEWALK SHOULD BE A MINIMUM OF 4 FEET WIDE. IF THE SIDEWALK EXEEDS 200 FEET THEN A 5 FOOT BE 5 FOOT PASSING ZONE SHALL BE PROVIDED.
- THE PROTECTIVE REQUIREMENTS OF A TTC WORK ZONE MAY HAVE AN IMPACT IN DETERMINING THE NEED FOR TEMPORARY TRAFFIC BARRIERS AND THEIR USE IN PROVIDING PEDESTRIAN DELINEATION SHOULD BE BASED ON ENGINEERING JUDGMENT .
- CONTROLS ONLY FOR PEDESTRIAN TRAFFIC ARE SHOWN; VEHICULAR TRAFFIC SHOULD BE HANDLED AS SHOWN ELSEWHERE. THESE DETAILS ARE USED IN CONJUNCTION WITH THE PROPOSED LANE CLOSURE DETAILS AND DURING CONSTRUCTION STAGING, AS DETERMINED BY THE ENGINEER.
- AUDIBLE INFORMATION DEVICES SHOULD BE CONSIDERED WHERE MIDBLOCK CLOSINGS AND CHANGED CROSSWALK AREAS CAUSE INADEQUATE COMMUNICATION TO BE PROVIDED TO PEDESTRIANS WHO HAVE VISUAL DISABILITIES.
- EXISTING AUDIBLE DEVICES NO LONGER APPLICABLE DUE TO CONSTRUCTION SHALL BE DISABLED.

AUDIBLE DEVICES:

- FOR LONG TERM SIDEWALK CLOSURES (AT A MINIMUM OVERNIGHT) A FORM OF SPEECH MESSAGING FOR PEDESTRIANS WITH VISUAL DISABILITIES SHALL BE PROVIDED. AUDIBLE INFORMATION DEVICES SUCH AS DETECTABLE BARRIERS OR BARRICADES AND OTHER PASSIVE PEDESTRIAN ACTIVATION (MOTION ACTIVATED) DEVICES SHOULD BE CONSIDERED FOR THESE CASES. THESE AUDIBLE DEVICES CAN BE MOUNTABLE OR STAND ALONE.



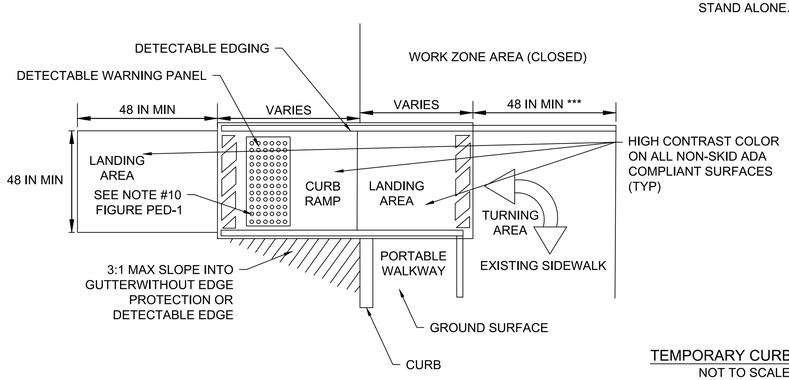
TEMPORARY CURB RAMP-PERPENDICULAR TO CURB
NOT TO SCALE



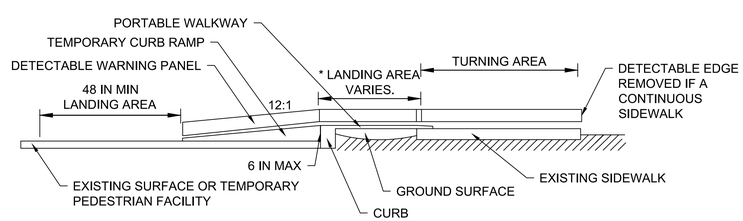
TEMPORARY CURB RAMP-PARALLEL TO CURB
NOT TO SCALE

NOTES:

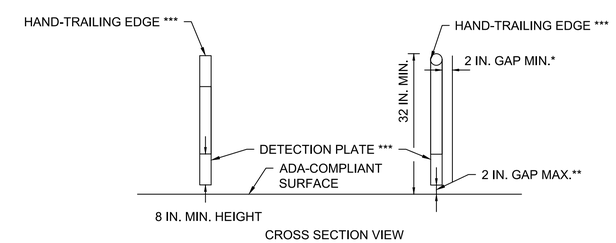
1. CURB RAMPS SHALL BE 60 IN. MINIMUM WIDTH WITH A FIRM, STABLE AND NON-SLIP SURFACE.
2. PROTECTIVE EDGING WITH A 2 IN. MINIMUM HEIGHT SHALL BE INSTALLED WHEN THE CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6 IN. OR GREATER OR HAS A SIDE APRON SLOP STEEPER THAN 1:3 (33%). PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN THE CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3 IN. OR MORE.
3. DETECTABLE EDGING WITH 6 IN. MINIMUM HEIGHT AND CONTRASTING COLOR SHALL BE INSTALLED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).
4. THE CURB RAMP WALKWAY AND LANDING AREA SURFACE SHALL BE OF A SOLID CONTINUOUS CONTRASTING COLOR ABUTTING UP TO THE EXISTING SIDEWALK.
5. CURB RAMPS AND LANDINGS SHOULD HAVE A 1:50 (2%) MAX CROSS-SLOPE.
6. CLEAR SPACE OF 48x48 IN. MINIMUM SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.
7. WATER FLOW IN THE GUTTER SYSTEM SHALL HAVE MINIMAL RESTRICTION.
8. LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN 0.5 IN. WIDTH.
9. CHANGES BETWEEN SURFACE HEIGHTS SHOULD NOT EXCEED 0.5 IN. LATERAL EDGES SHOULD BE VERTICAL UP TO 0.25 IN. HIGH, AND BEVELED AT 1:2 BETWEEN 0.25 IN. AND 0.5 IN. HEIGHT.
10. IF A TEMPORARY PEDESTRIAN RAMP LEADS TO A CROSSWALK, THEN A DETECTABLE WARNING PAD MUST BE ADHERED TO THE BASE OF THE RAMP. IF IT LEADS TO A PROTECTED PEDESTRIAN BYPASS THAT DOES NOT CONFLICT WITH VEHICULAR TRAFFIC, THEN A PAD SHALL NOT BE INSTALLED ON THE RAMP.



TEMPORARY CURB RAMP
NOT TO SCALE



* LANDING AREA USED TO OVERLAP NON-ADA COMPLIANT SURFACES.
** DETECTABLE EDGE REMOVED IF A CONTINUOUS SIDEWALK.
*** 60 IN. IF AN OBSTRUCTION IS AT BACK OF SIDEWALK



PEDESTRIAN CHANNELIZING DEVICE
NOT TO SCALE

NOTES:

* THERE SHALL BE A 2 INCH GAP BETWEEN THE HAND-TRAILING EDGE AND ITS SUPPORT.
** A MAXIMUM 2 INCH GAP BETWEEN THE BOTTOM OF THE BOTTOM RAIL AND THE SURFACE MAY BE USED TO PROVIDE DRAINAGE.
*** THE HAND-TRAILING EDGE AND DETECTION PLATE SHALL BE CONTINUOUS THROUGHOUT THE LENGTH OF THE PATH SUCH THAT A PEDESTRIAN USER WITH A LONG CANE CAN FOLLOW IT.

NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: INITIALS
DESIGNED BY: INITIALS
CHECKED BY: INITIALS

REGISTERED PROFESSIONAL: For Review Only

PREPARED BY: BETA www.BETA-Inc.com

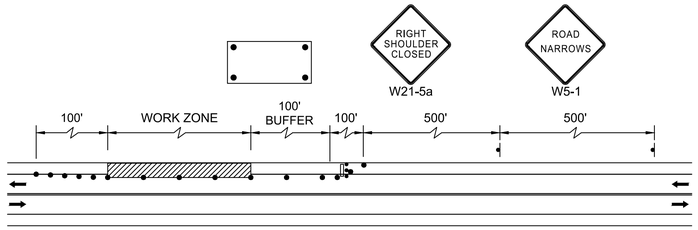
SUBCONSULTANT

SCALE: NONE
UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

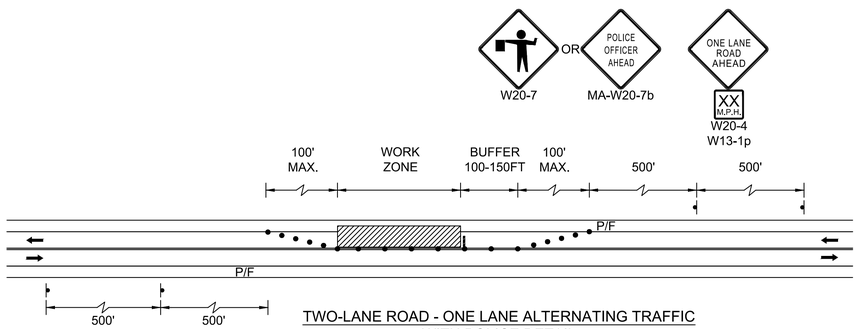
TITLE: **HIGH STREET STREETSCAPE CLINTON, MA**
TEMPORARY TRAFFIC CONTROL PLAN

BETA JOB NO. 6182
ISSUE DATE 7/16/2020
SHEET NO. 43 OF 60

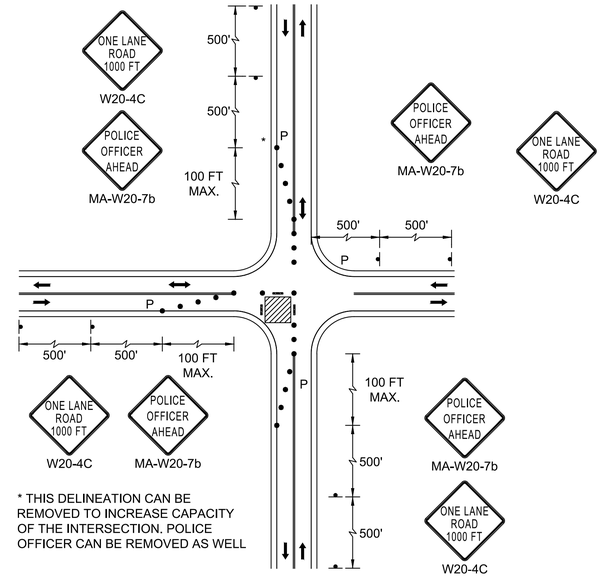
7/16/2020 10:53 AM O:\6100\S\6182 - CLINTON - HIGH ST STREETSCAPE\DRAWING FILES\PLANSET\6182 TRAFFIC MANAGEMENT PLAN.DWG (BETA STB BW.STB)



TWO-LANE ROAD - SHOULDER CLOSED
NOT TO SCALE



TWO-LANE ROAD - ONE LANE ALTERNATING TRAFFIC
WITH POLICE DETAIL
NOT TO SCALE



* THIS DELINEATION CAN BE REMOVED TO INCREASE CAPACITY OF THE INTERSECTION. POLICE OFFICER CAN BE REMOVED AS WELL

INTERSECTION WITH LANE CLOSURE
NOT TO SCALE

MA-R2-10a

NOTE:
"WORK ZONE"
BLACK ON ORANGE;
"SPEEDING FINES DOUBLED"
BLACK ON WHITE

MA-R2-10e

NOTE:
"END ROAD WORK"
BLACK ON ORANGE;
"DOUBLE FINES END"
BLACK ON WHITE

CONSTRUCTION SIGNS
NOT TO SCALE

SAFETY SIGNING FOR CONSTRUCTION OPERATIONS

LEGEND	TYPE	SIZE	COLOR			UNIT AREA	NO. SIGNS	TOTAL AREA	POSTS
			BACKGROUND	LEGEND	BORDER				
WORK ZONE SPEEDING FINES...	MA-R2-10a	48" x 36"	ORANGE**/WHITE	BLACK	BLACK	12 SF	4	48 SF	P-5: 4
END ROAD WORK	MA-R2-10e	36" x 48"	ORANGE**/WHITE	BLACK	BLACK	12 SF	9	108 SF	P-5: 9
SIDEWALK CLOSED CROSS HERE	R9-11a	48" x 24"	WHITE	BLACK	BLACK	8 SF	2	16 SF	P-5: 2
ROAD NARROWS	W5-1	36" x 36"	ORANGE**	BLACK	BLACK	9 SF	2	18 SF	P-5: 2
BUMP	W8-1	36" x 36"	ORANGE**	BLACK	BLACK	9 SF	4	36 SF	P-5: 4
PAVEMENT ENDS	W8-3	36" x 36"	ORANGE**	BLACK	BLACK	9 SF	4	36 SF	P-5: 4
GROOVED PAVEMENT	W8-15	36" x 36"	ORANGE**	BLACK	BLACK	9 SF	4	36 SF	P-5: 4
STEEL PLATE AHEAD	W8-24	36" x 36"	ORANGE**	BLACK	BLACK	9 SF	4	36 SF	P-5: 4
PEDESTRIAN	W11-2	30" x 30"	FYG***	BLACK	BLACK	6.3 SF	4	25 SF	P-5: 4
ADVISORY SPEED	W13-1	24" x 30"	ORANGE**	BLACK	BLACK	5 SF	2	10 SF	P-5: 0
DOWNWARD LEFT DIAGONAL ARROW	W16-7pL	24" x 12"	FYG***	BLACK	BLACK	2 SF	4	8 SF	P-5: 0
ROAD WORK 1500 FT	W20-1A	36" x 36"	ORANGE**	BLACK	BLACK	9 SF	4	36 SF	P-5: 4
ROAD WORK AHEAD	W20-1B	36" x 36"	ORANGE**	BLACK	BLACK	9 SF	9	81 SF	P-5: 9
ONE LANE ROAD AHEAD	W20-4	36" x 36"	ORANGE**	BLACK	BLACK	9 SF	4	36 SF	P-5: 4
ONE LANE ROAD 1000 FT	W20-4C	36" x 36"	ORANGE**	BLACK	BLACK	9 SF	4	36 SF	P-5: 4
FLAGGER	W20-7	36" x 36"	ORANGE**	BLACK	BLACK	9 SF	4	36 SF	P-5: 4
POLICE OFFICER AHEAD	MA-W20-7b	36" x 36"	ORANGE**	BLACK	BLACK	9 SF	4	36 SF	P-5: 4
RIGHT SHOULDER CLOSED	W21-5aR	36" x 36"	ORANGE**	BLACK	BLACK	9 SF	2	18 SF	P-5: 2
					TOTAL AREA OF SIGNS:			820 SF	P-5: 68

* NO. OF SIGNS ARE ESTIMATED FOR BIDDING PURPOSES ONLY
** ALL CONSTRUCTION SIGNAGE SHALL HAVE FLUORESCENT ORANGE BACKGROUND
*** FLUORESCENT YELLOW GREEN

NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: INITIALS
DESIGNED BY: INITIALS
CHECKED BY: INITIALS

REGISTERED PROFESSIONAL: For Review Only

PREPARED BY: BETA www.BETA-Inc.com

SUBCONSULTANT

SCALE: NONE
UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE: HIGH STREET STREETSCAPE
CLINTON, MA
TEMPORARY TRAFFIC CONTROL PLAN

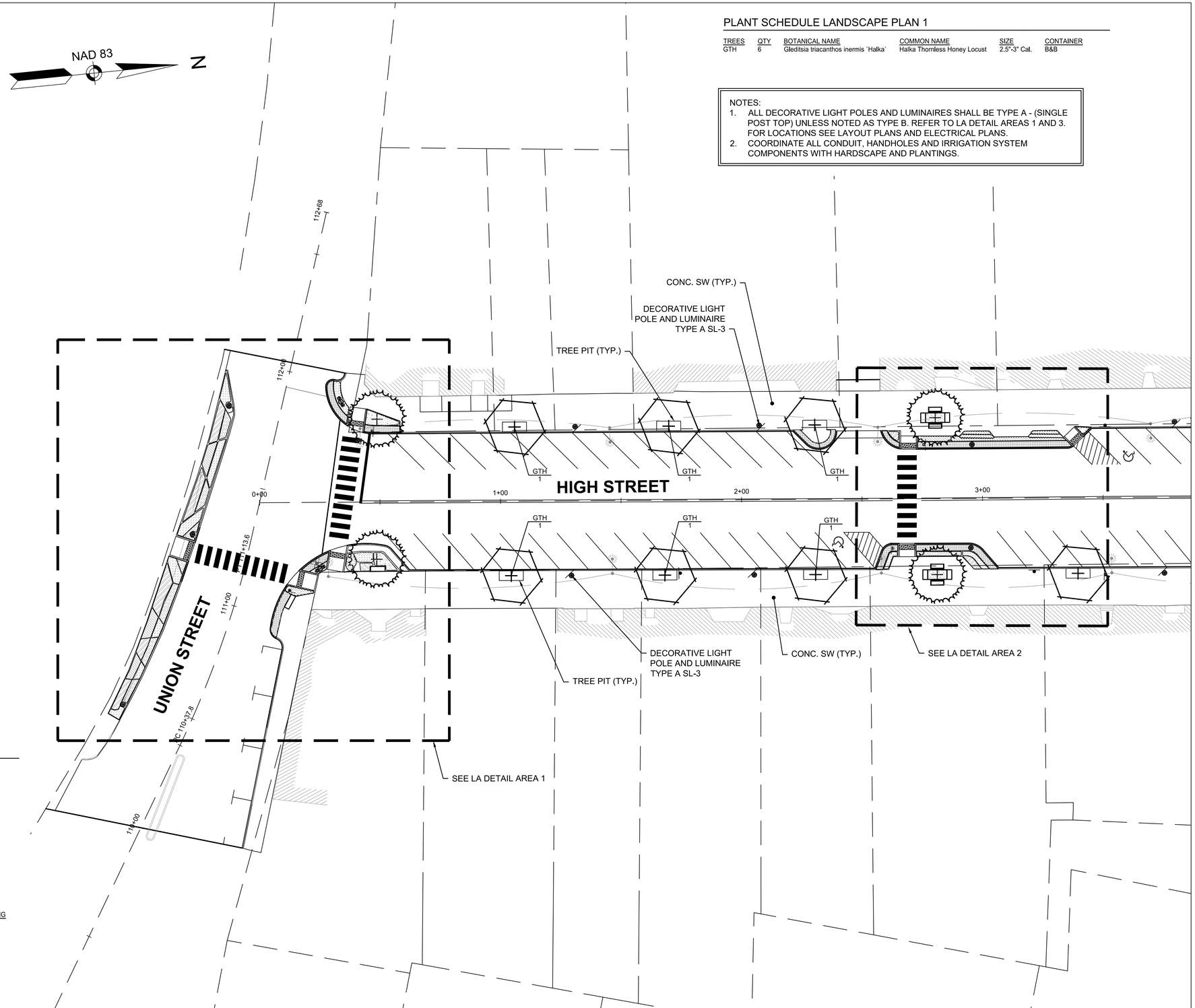
BETA JOB NO. 6182
ISSUE DATE 7/16/2020
SHEET NO. 44 OF 60

7/16/2020 10:53 AM Q:\61005\6182 - CLINTON - HIGH ST STREETSCAPE\DRAWING FILES\PLANSET\6182 TRAFFIC MANAGEMENT PLAN.DWG (BETA STB BW.STB)

PLANT SCHEDULE LANDSCAPE PLAN 1

TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER
GTH	6	Gleditsia triacanthos inermis `Halka`	Halka Thornless Honey Locust	2.5"-3" Cal.	B&B

NOTES:
1. ALL DECORATIVE LIGHT POLES AND LUMINAIRES SHALL BE TYPE A - (SINGLE POST TOP) UNLESS NOTED AS TYPE B. REFER TO LA DETAIL AREAS 1 AND 3. FOR LOCATIONS SEE LAYOUT PLANS AND ELECTRICAL PLANS.
2. COORDINATE ALL CONDUIT, HANDHOLES AND IRRIGATION SYSTEM COMPONENTS WITH HARDSCAPE AND PLANTINGS.



OVERALL PROJECT TOTAL PLANT SCHEDULE

TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER
GTH	14	Gleditsia triacanthos inermis `Halka`	Halka Thornless Honey Locust	2.5"-3" Cal.	B&B
LSS	6	Liquidambar styraciflua `Slender Silhouette`	Columnar Sweet Gum	2.5"-3" Cal.	B&B
PSC	9	Prunus sargentii `Columnaris`	Columnar Sargent Cherry	2.5"-3" Cal.	B&B
QGP	6	Quercus palustris `Pringreen` TM	Greenpillar Pin Oak	2.5"-3" Cal.	B&B
TD	10	Taxodium distichum	Bald Cypress	16`-18` Ht.	B&B
ZGV	9	Zelkova serrata `Green Vase`	Green Vase Sawleaf Zelkova	2.5"-3" Cal.	B&B

SHRUBS	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER
CBM	6	Caryopteris x clandonensis `Blue Mist`	Blue Mist Bluebeard	3 gal.	Cont.
TMH	6	Taxus x media `Hicksii`	Hicks Yew	4`-5` Ht.	B&B

SHRUB AREAS	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	SPACING
CKF	58	Calamagrostis x acutiflora `Karl Foerster`	Feather Reed Grass	2 gal.	Cont.	30" o.c.
HSO	265	Hemerocallis x `Stella de Oro`	Stella de Oro Daylily	1 gal.	Cont.	18" o.c.
JBH	22	Juniperus horizontalis `Bar Harbor`	Bar Harbor Creeping Juniper	15"-18"	Cont.	30" o.c.
LBB	277	Liriope muscari `Big Blue`	Big Blue Lilyturf	1 gal.	Cont.	15" o.c.
NWL	135	Nepeta x faassenii `Walkers Low`	Walkers Low Catmint	1 gal.	Cont.	30" o.c.
PAH	193	Pennisetum alopecuroides `Hameln`	Hameln Fountain Grass	3 gal.	Cont.	24" o.c.

NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: INITIALS
DESIGNED BY: INITIALS
CHECKED BY: INITIALS

REGISTERED PROFESSIONAL

PREPARED BY: BETA www.BETA-Inc.com

SUBCONSULTANT

SCALE: 20 0 20 40 — SCALE IN FEET: 1"=20'
UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE: HIGH STREET STREETSCAPE CLINTON, MA
HIGH ST. LANDSCAPE PLAN 1

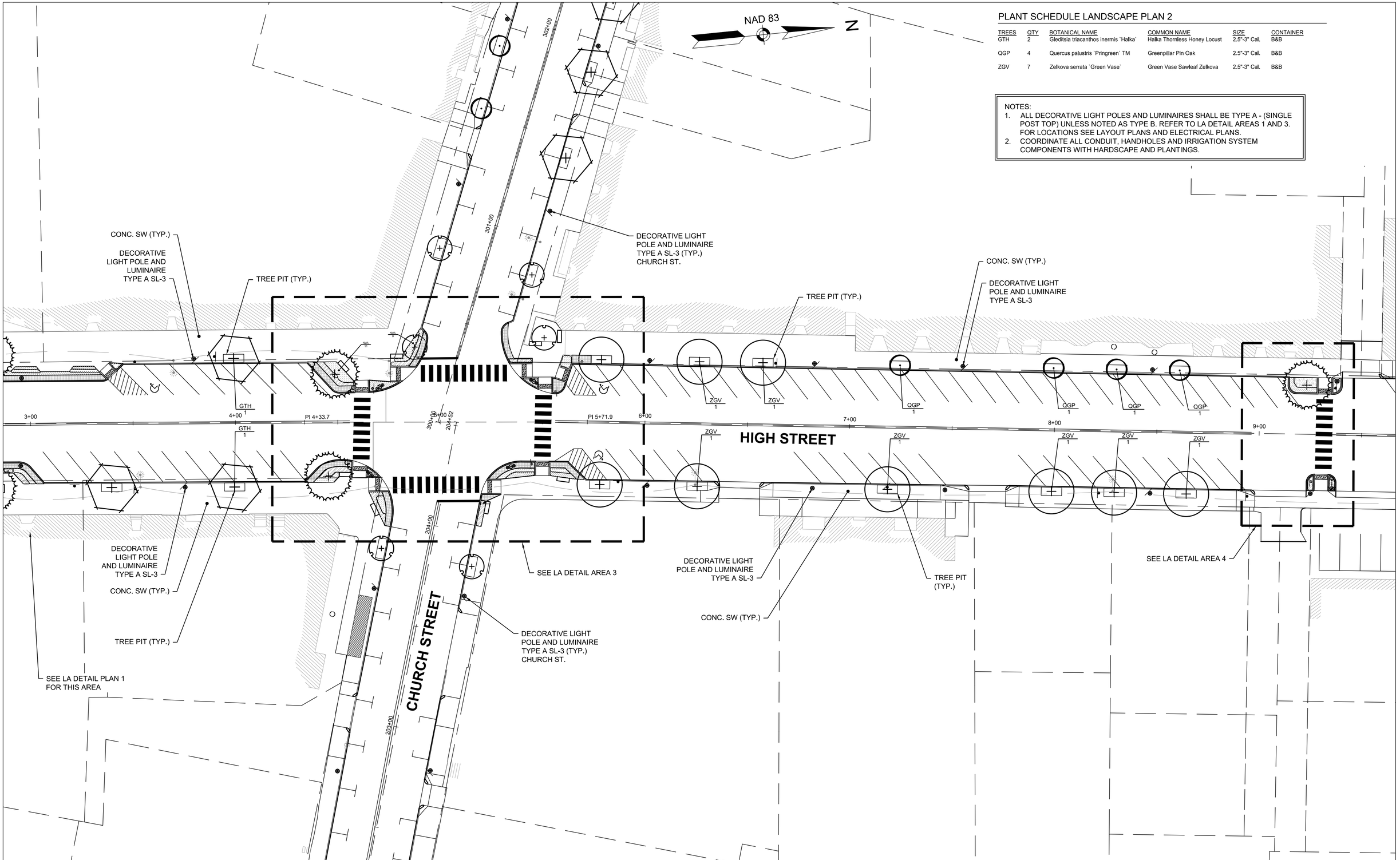
BETA JOB NO. 6182
ISSUE DATE 7/16/2020
SHEET NO. 45 OF 60

7/16/2020 10:54 AM O:\6100\6182 - CLINTON - HIGH ST STREETSCAPE\DRAWING FILES\PLANSET\6182 LANDSCAPE PLAN.DWG (BETA STB BW.STB)

PLANT SCHEDULE LANDSCAPE PLAN 2

TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER
GTH	2	Gleditsia triacanthos inermis `Halka`	Halka Thornless Honey Locust	2.5"-3" Cal.	B&B
QGP	4	Quercus palustris `Pringreen` TM	Greenpillar Pin Oak	2.5"-3" Cal.	B&B
ZGV	7	Zelkova serrata `Green Vase`	Green Vase Sawleaf Zelkova	2.5"-3" Cal.	B&B

NOTES:
1. ALL DECORATIVE LIGHT POLES AND LUMINAIRES SHALL BE TYPE A - (SINGLE POST TOP) UNLESS NOTED AS TYPE B. REFER TO LA DETAIL AREAS 1 AND 3. FOR LOCATIONS SEE LAYOUT PLANS AND ELECTRICAL PLANS.
2. COORDINATE ALL CONDUIT, HANDHOLES AND IRRIGATION SYSTEM COMPONENTS WITH HARDSCAPE AND PLANTINGS.



NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: INITIALS
DESIGNED BY: INITIALS
CHECKED BY: INITIALS

REGISTERED PROFESSIONAL

PREPARED BY: BETA www.BETA-Inc.com

SUBCONSULTANT

SCALE: 20 0 20 40 — SCALE IN FEET: 1"=20'

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE

HIGH STREET STREETSCAPE
CLINTON, MA

HIGH ST. LANDSCAPE PLAN 2

BETA JOB NO. 6182
ISSUE DATE 7/16/2020
SHEET NO. 46 OF 60

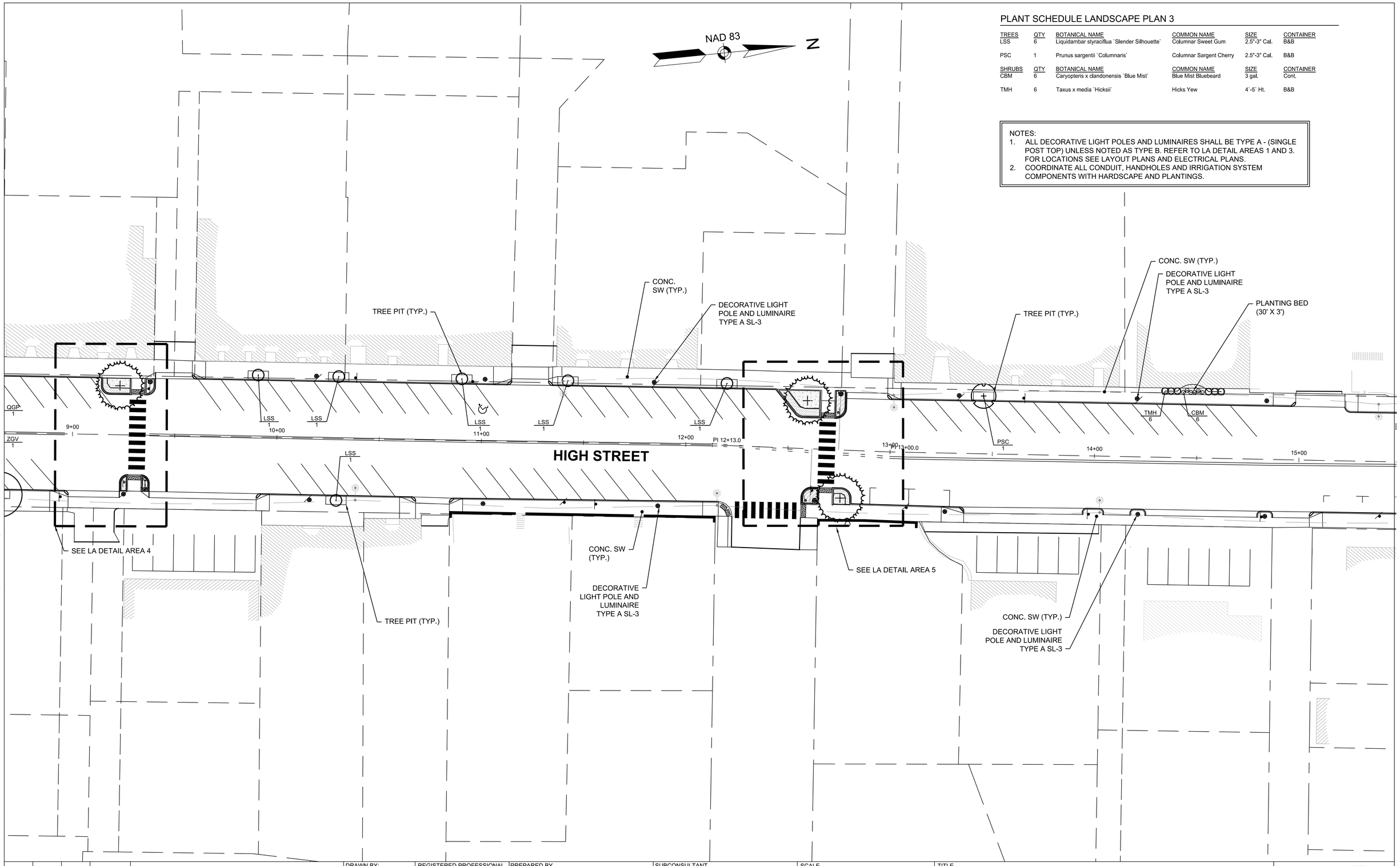
7/16/2020 10:54 AM O:\6100S\6182 - CLINTON - HIGH ST STREETSCAPE\DRAWING FILES\PLANSET\6182 LANDSCAPE PLAN.DWG (BETA STB BW.STB)

PLANT SCHEDULE LANDSCAPE PLAN 3

TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER
LSS	6	Liquidambar styraciflua `Slender Silhouette`	Columnar Sweet Gum	2.5"-3" Cal.	B&B
PSC	1	Prunus sargentii `Columnaris`	Columnar Sargent Cherry	2.5"-3" Cal.	B&B

SHRUBS	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER
CBM	6	Caryopteris x clandonensis `Blue Mist`	Blue Mist Bluebeard	3 gal.	Cont.
TMH	6	Taxus x media `Hicksii`	Hicks Yew	4`-5` Ht.	B&B

NOTES:
1. ALL DECORATIVE LIGHT POLES AND LUMINAIRES SHALL BE TYPE A - (SINGLE POST TOP) UNLESS NOTED AS TYPE B. REFER TO LA DETAIL AREAS 1 AND 3. FOR LOCATIONS SEE LAYOUT PLANS AND ELECTRICAL PLANS.
2. COORDINATE ALL CONDUIT, HANDHOLES AND IRRIGATION SYSTEM COMPONENTS WITH HARDSCAPE AND PLANTINGS.



NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: INITIALS
DESIGNED BY: INITIALS
CHECKED BY: INITIALS

REGISTERED PROFESSIONAL

PREPARED BY: BETA www.BETA-Inc.com

SUBCONSULTANT

SCALE: 20 0 20 40 — SCALE IN FEET: 1"=20'

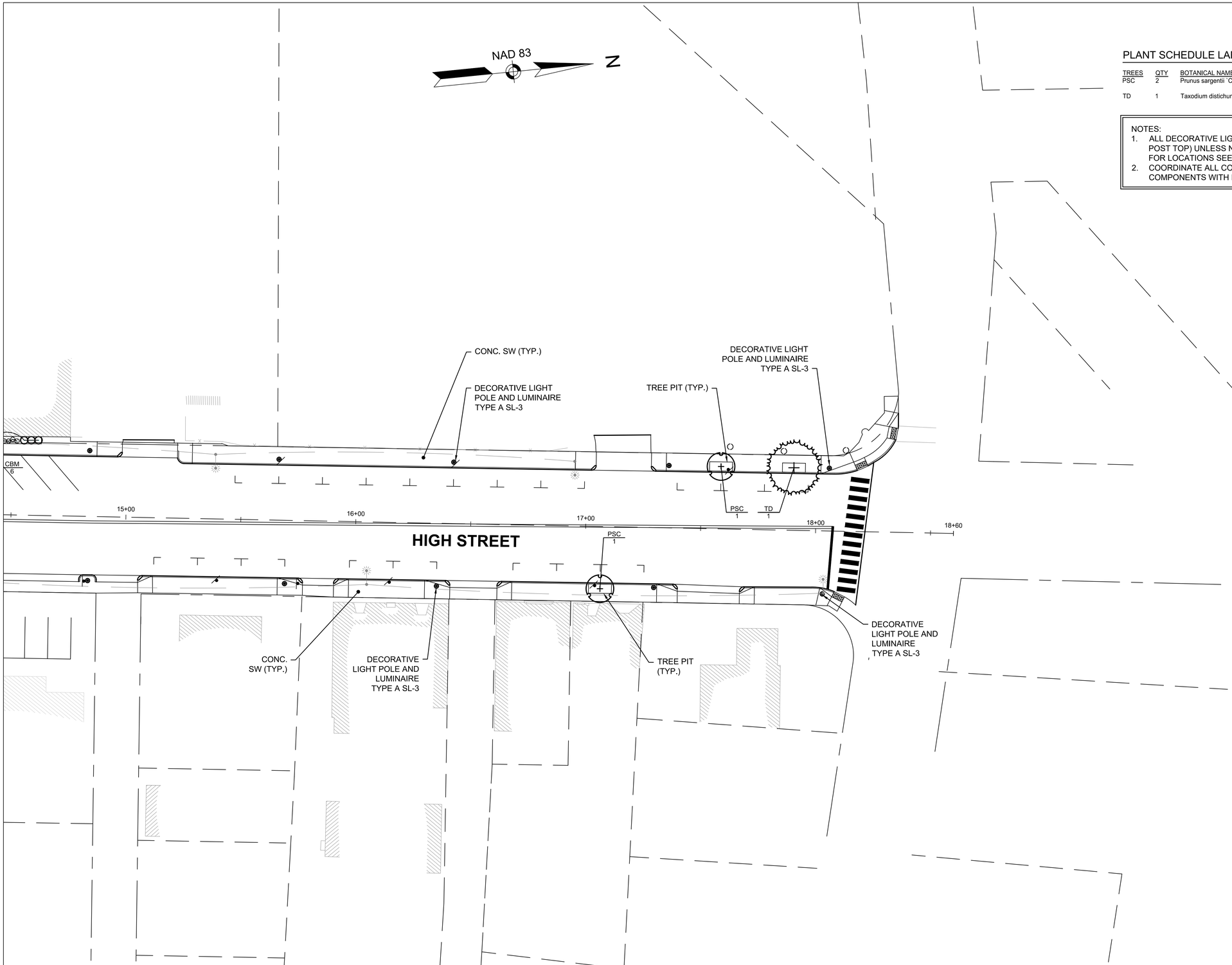
UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE: HIGH STREET STREETSCAPE CLINTON, MA

HIGH ST. LANDSCAPE PLAN 3

BETA JOB NO. 6182
ISSUE DATE 7/16/2020
SHEET NO. 47 OF 60

7/16/2020 10:54 AM O:\6100\S\6182 - CLINTON - HIGH ST STREETSCAPE\DRAWING FILES\PLANSET\6182 LANDSCAPE PLAN.DWG (BETA STB BW.STB)



PLANT SCHEDULE LANDSCAPE PLAN 4

TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER
PSC	2	Prunus sargentii `Columnaris`	Columnar Sargent Cherry	2.5"-3" Cal.	B&B
TD	1	Taxodium distichum	Bald Cypress	16`-18` Ht.	B&B

NOTES:
1. ALL DECORATIVE LIGHT POLES AND LUMINAIRES SHALL BE TYPE A - (SINGLE POST TOP) UNLESS NOTED AS TYPE B. REFER TO LA DETAIL AREAS 1 AND 3. FOR LOCATIONS SEE LAYOUT PLANS AND ELECTRICAL PLANS.
2. COORDINATE ALL CONDUIT, HANDHOLES AND IRRIGATION SYSTEM COMPONENTS WITH HARDSCAPE AND PLANTINGS.

NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: INITIALS
DESIGNED BY: INITIALS
CHECKED BY: INITIALS

REGISTERED PROFESSIONAL

PREPARED BY: BETA www.BETA-Inc.com

SUBCONSULTANT

SCALE: 20 0 20 40 — SCALE IN FEET: 1"=20'

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE

HIGH STREET STREETSCAPE
CLINTON, MA

HIGH ST. LANDSCAPE PLAN 4

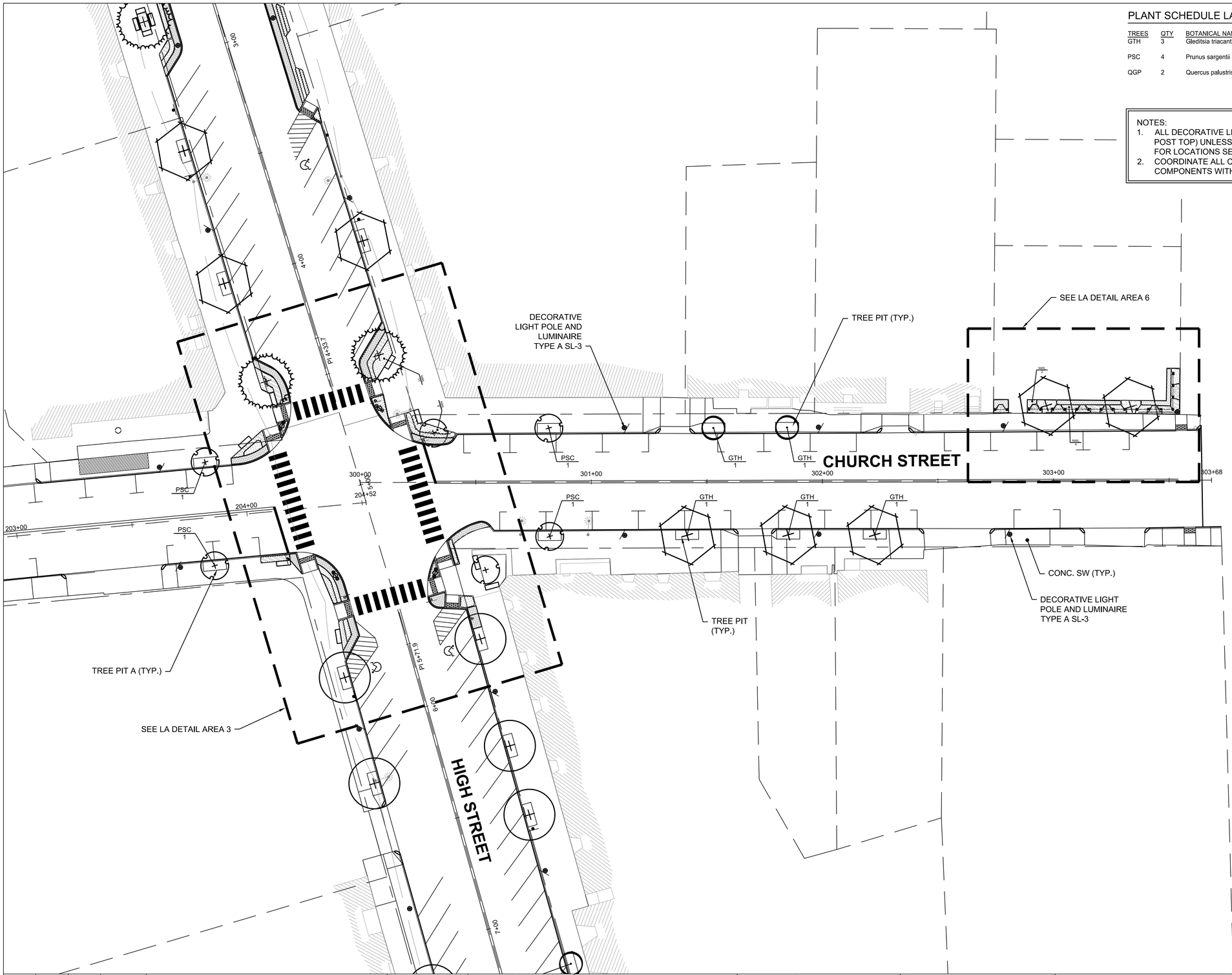
BETA JOB NO. 6182
ISSUE DATE 7/16/2020
SHEET NO. 48 OF 60

7/16/2020 10:54 AM O:\6100\S\6182 - CLINTON - HIGH ST STREETSCAPE\DRAWING FILES\PLANSET\6182 LANDSCAPE PLAN.DWG (BETA STB BW.STB)

PLANT SCHEDULE LANDSCAPE PLAN 5

TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER
GTH	3	Gleditsia triacanthos inermis `Halka`	Halka Thornless Honey Locust	2.5"-3" Cal.	B&B
PSC	4	Prunus sargentii `Columnaris`	Columnar Sargent Cherry	2.5"-3" Cal.	B&B
QGP	2	Quercus palustris `Pringreen` TM	Greenpillar Pin Oak	2.5"-3" Cal.	B&B

NOTES:
1. ALL DECORATIVE LIGHT POLES AND LUMINAIRES SHALL BE TYPE A - (SINGLE POST TOP) UNLESS NOTED AS TYPE B. REFER TO LA DETAIL AREAS 1 AND 3. FOR LOCATIONS SEE LAYOUT PLANS AND ELECTRICAL PLANS.
2. COORDINATE ALL CONDUIT, HANDHOLES AND IRRIGATION SYSTEM COMPONENTS WITH HARDSCAPE AND PLANTINGS.



NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: INITIALS
DESIGNED BY: INITIALS
CHECKED BY: INITIALS

REGISTERED PROFESSIONAL

PREPARED BY: BETA www.BETA-Inc.com

SUBCONSULTANT

SCALE: 20 0 20 40 — SCALE IN FEET: 1"=20'

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

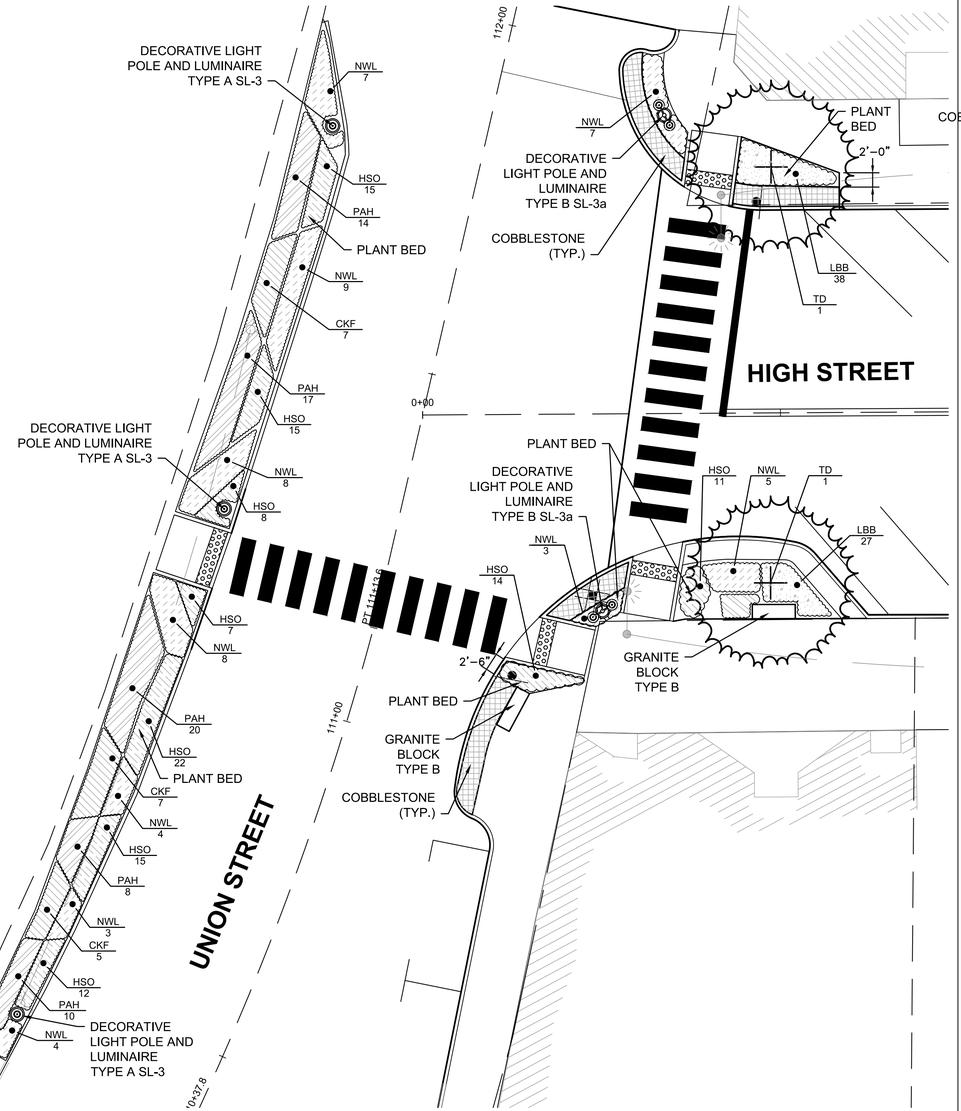
TITLE

HIGH STREET STREETSCAPE
CLINTON, MA

CHURCH ST. LANDSCAPE PLAN 1

BETA JOB NO. 6182
ISSUE DATE 7/16/2020
SHEET NO. 49 OF 60

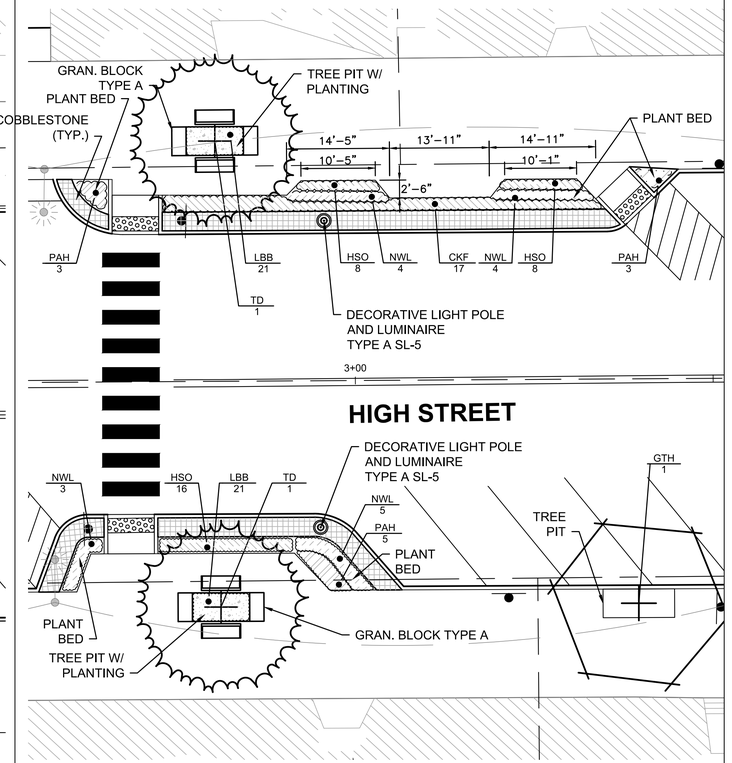
7/16/2020 10:54 AM O:\6100\S6182 - CLINTON - HIGH ST STREETSCAPE\DRAWING FILES\PLANSET\6182 LANDSCAPE PLAN.DWG (BETA STB BW.STB)



PLANT SCHEDULE LA DETAIL AREA 1

TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	
TD	2	Taxodium distichum	Bald Cypress	16`-18` Ht.	B&B	
SHRUB AREAS	**QTY**	**BOTANICAL NAME**	**COMMON NAME**	**SIZE**	**CONTAINER**	**SPACING**
CKF	19	Calamagrostis x acutiflora `Karl Foerster`	Feather Reed Grass	2 gal.	Cont.	30" o.c.
HSO	119	Hemerocallis x `Stella de Oro`	Stella de Oro Daylily	1 gal.	Cont.	18" o.c.
LBB	65	Liriope muscari `Big Blue`	Big Blue Lilyturf	1 gal.	Cont.	15" o.c.
NWL	58	Nepeta x faassenii `Walkers Low`	Walkers Low Catmint	1 gal.	Cont.	30" o.c.
PAH	69	Pennisetum alopecuroides `Hameln`	Hameln Fountain Grass	3 gal.	Cont.	24" o.c.

LA DETAIL AREA 1
SCALE: 1"=10'-0"



PLANT SCHEDULE LA DETAIL AREA 2

TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	
GTH	1	Gleditsia triacanthos inermis `Halka`	Halka Thornless Honey Locust	2.5"-3" Cal.	B&B	
TD	2	Taxodium distichum	Bald Cypress	16`-18` Ht.	B&B	
SHRUB AREAS	**QTY**	**BOTANICAL NAME**	**COMMON NAME**	**SIZE**	**CONTAINER**	**SPACING**
CKF	17	Calamagrostis x acutiflora `Karl Foerster`	Feather Reed Grass	2 gal.	Cont.	30" o.c.
HSO	32	Hemerocallis x `Stella de Oro`	Stella de Oro Daylily	1 gal.	Cont.	18" o.c.
LBB	42	Liriope muscari `Big Blue`	Big Blue Lilyturf	1 gal.	Cont.	15" o.c.
NWL	16	Nepeta x faassenii `Walkers Low`	Walkers Low Catmint	1 gal.	Cont.	30" o.c.
PAH	11	Pennisetum alopecuroides `Hameln`	Hameln Fountain Grass	3 gal.	Cont.	24" o.c.

LA DETAIL AREA 2
SCALE: 1"=10'-0"

NOTES:
1. ALL DECORATIVE LIGHT POLES AND LUMINAIRES SHALL BE TYPE A - (SINGLE POST TOP) UNLESS NOTED AS TYPE B. REFER TO LA DETAIL AREAS 1 AND 3. FOR LOCATIONS SEE LAYOUT PLANS AND ELECTRICAL PLANS.
2. COORDINATE ALL CONDUIT, HANDHOLES AND IRRIGATION SYSTEM COMPONENTS WITH HARDSCAPE AND PLANTINGS.

NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: INITIALS
DESIGNED BY: INITIALS
CHECKED BY: INITIALS

REGISTERED PROFESSIONAL

PREPARED BY: BETA www.BETA-Inc.com

SUBCONSULTANT

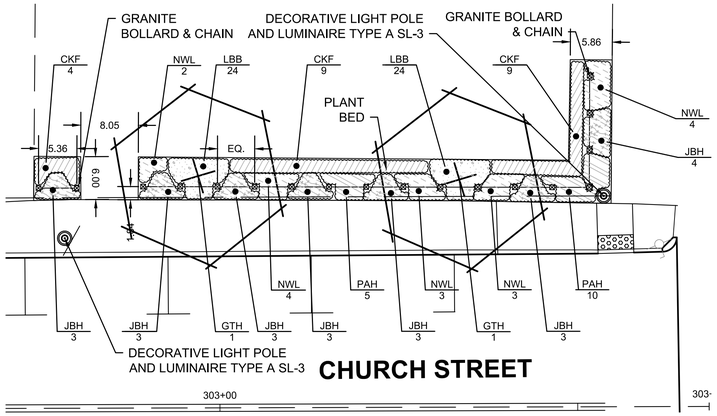
SCALE: 10 0 10 20 SCALE IN FEET: 1"=10'

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE: HIGH STREET STREETSCAPE CLINTON, MA
LANDSCAPE DETAIL AREAS - ENLARGEMENT PLAN 1

BETA JOB NO. 6182
ISSUE DATE 7/16/2020
SHEET NO. 50 OF 60

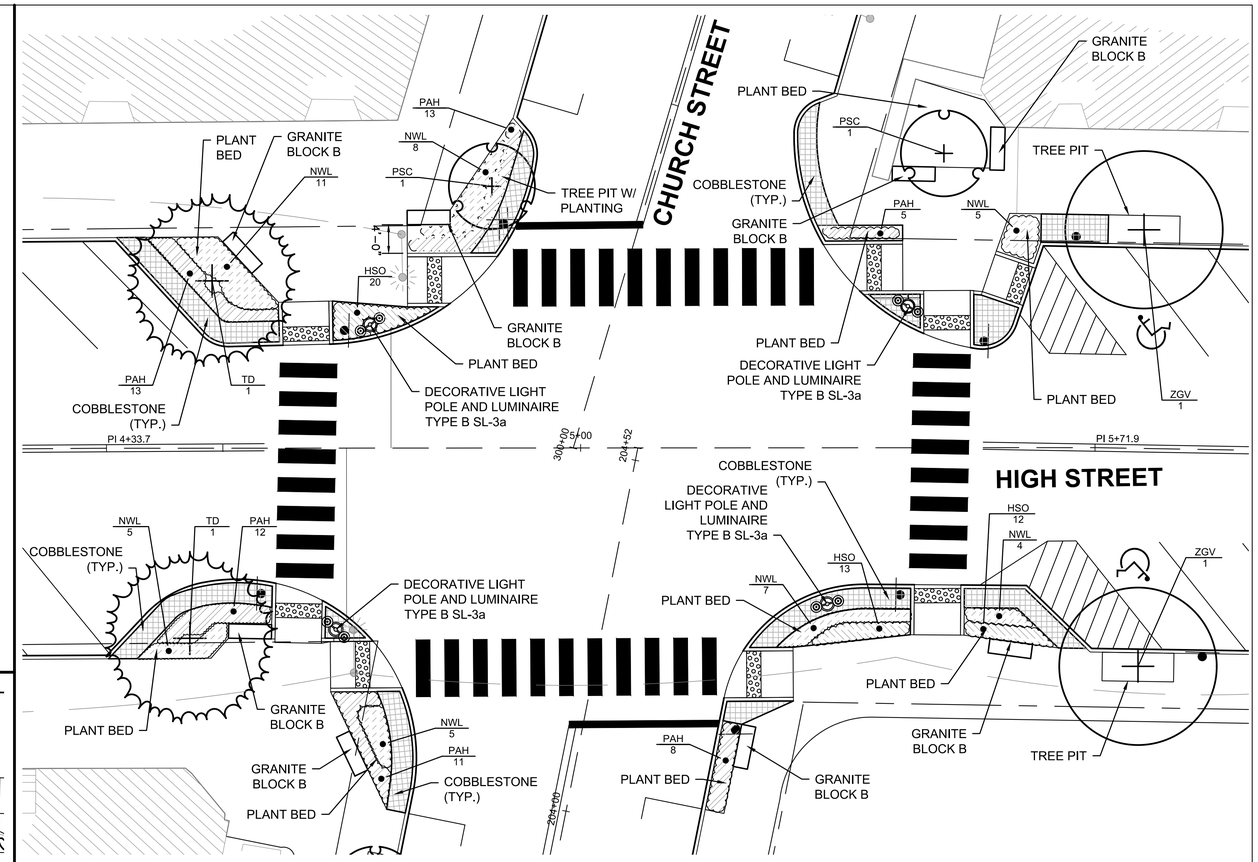
7/16/2020 10:54 AM O:\6100\S\6182 - CLINTON - HIGH ST STREETSCAPE\DRAWING FILES\PLANSET\6182 LANDSCAPE PLAN.DWG (BETA STB BW.STB)



PLANT SCHEDULE LA DETAIL AREA 3

TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	
GTH	2	Gleditsia triacanthos inermis `Halka`	Halka Thornless Honey Locust	2.5"-3" Cal.	B&B	
SHRUB AREAS	**QTY**	**BOTANICAL NAME**	**COMMON NAME**	**SIZE**	**CONTAINER**	**SPACING**
CKF	22	Calamagrostis x acutiflora `Karl Foerster`	Feather Reed Grass	2 gal.	Cont.	30" o.c.
JBH	22	Juniperus horizontalis `Bar Harbor`	Bar Harbor Creeping Juniper	15"-18"	Cont.	30" o.c.
LBB	48	Liriope muscari `Big Blue`	Big Blue Lilyturf	1 gal.	Cont.	15" o.c.
NWL	16	Nepeta x faassenii `Walkers Low`	Walkers Low Catmint	1 gal.	Cont.	30" o.c.
PAH	15	Pennisetum alopecuroides `Hameln`	Hameln Fountain Grass	3 gal.	Cont.	24" o.c.

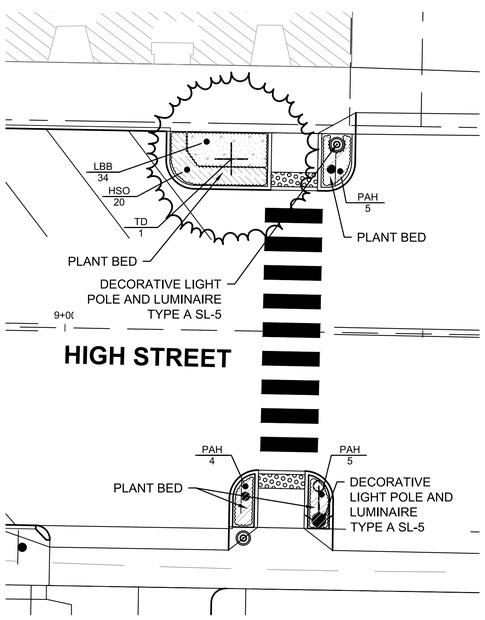
LA DETAIL AREA 3
SCALE: 1"=10'-0"



PLANT SCHEDULE LA DETAIL AREA 4

TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	
PSC	2	Prunus sargentii `Columnaris`	Columnar Sargent Cherry	2.5"-3" Cal.	B&B	
TD	2	Taxodium distichum	Bald Cypress	16`-18` Ht.	B&B	
ZGV	2	Zelkova serrata `Green Vase`	Green Vase Sawleaf Zelkova	2.5"-3" Cal.	B&B	
SHRUB AREAS	**QTY**	**BOTANICAL NAME**	**COMMON NAME**	**SIZE**	**CONTAINER**	**SPACING**
HSO	45	Hemerocallis x `Stella de Oro`	Stella de Oro Daylily	1 gal.	Cont.	18" o.c.
NWL	45	Nepeta x faassenii `Walkers Low`	Walkers Low Catmint	1 gal.	Cont.	30" o.c.
PAH	62	Pennisetum alopecuroides `Hameln`	Hameln Fountain Grass	3 gal.	Cont.	24" o.c.

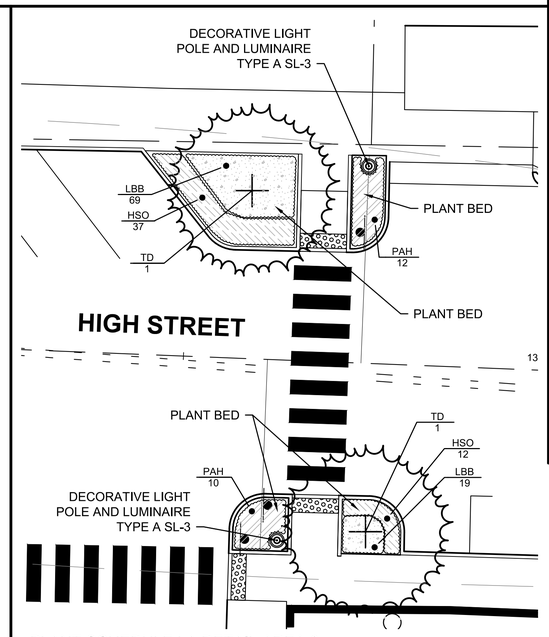
LA DETAIL AREA 4
SCALE: 1"=10'-0"



PLANT SCHEDULE LA DETAIL AREA 5

TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	
TD	1	Taxodium distichum	Bald Cypress	16`-18` Ht.	B&B	
SHRUB AREAS	**QTY**	**BOTANICAL NAME**	**COMMON NAME**	**SIZE**	**CONTAINER**	**SPACING**
HSO	20	Hemerocallis x `Stella de Oro`	Stella de Oro Daylily	1 gal.	Cont.	18" o.c.
LBB	34	Liriope muscari `Big Blue`	Big Blue Lilyturf	1 gal.	Cont.	15" o.c.
PAH	14	Pennisetum alopecuroides `Hameln`	Hameln Fountain Grass	3 gal.	Cont.	24" o.c.

LA DETAIL AREA5
SCALE: 1"=10'-0"



PLANT SCHEDULE LA DETAIL AREA 6

TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	
TD	2	Taxodium distichum	Bald Cypress	16`-18` Ht.	B&B	
SHRUB AREAS	**QTY**	**BOTANICAL NAME**	**COMMON NAME**	**SIZE**	**CONTAINER**	**SPACING**
HSO	49	Hemerocallis x `Stella de Oro`	Stella de Oro Daylily	1 gal.	Cont.	18" o.c.
LBB	88	Liriope muscari `Big Blue`	Big Blue Lilyturf	1 gal.	Cont.	15" o.c.
PAH	22	Pennisetum alopecuroides `Hameln`	Hameln Fountain Grass	3 gal.	Cont.	24" o.c.

LA DETAIL AREA 6
SCALE: 1"=10'-0"

NOTES:
1. ALL DECORATIVE LIGHT POLES AND LUMINAIRES SHALL BE TYPE A - (SINGLE POST TOP) UNLESS NOTED AS TYPE B. REFER TO LA DETAIL AREAS 1 AND 3. FOR LOCATIONS SEE LAYOUT PLANS AND ELECTRICAL PLANS.
2. COORDINATE ALL CONDUIT, HANDHOLES AND IRRIGATION SYSTEM COMPONENTS WITH HARDSCAPE AND PLANTINGS.

NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: INITIALS
DESIGNED BY: INITIALS
CHECKED BY: INITIALS

REGISTERED PROFESSIONAL

PREPARED BY: BETA www.BETA-Inc.com

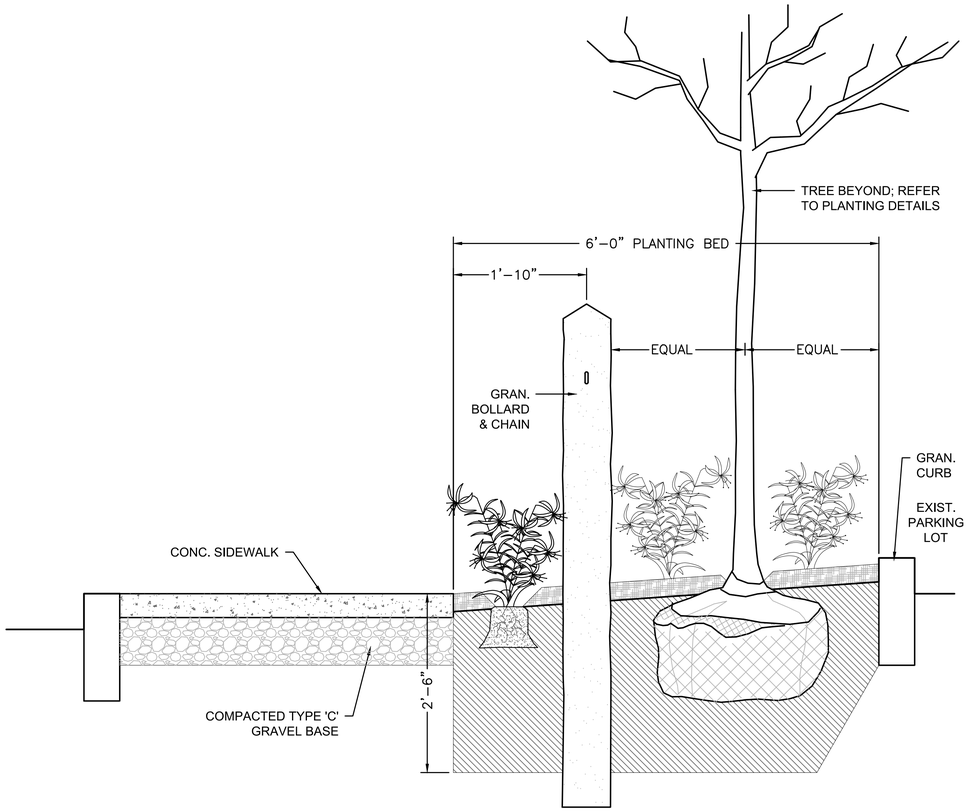
SUBCONSULTANT

SCALE: 10 0 10 20 SCALE IN FEET: 1"=10'
UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

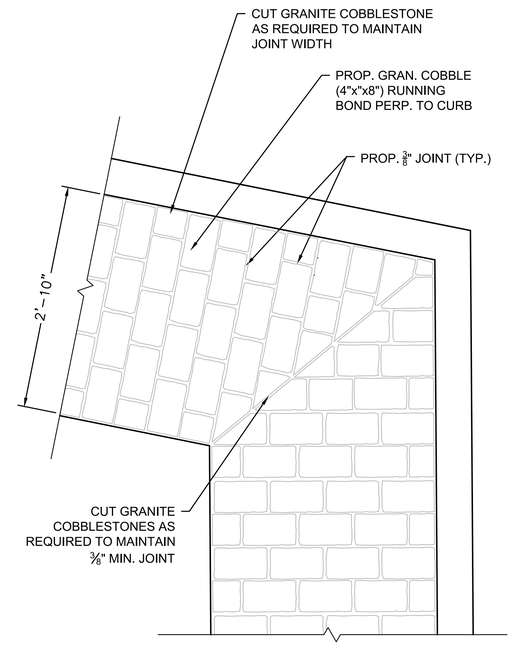
TITLE: HIGH STREET STREETSCAPE CLINTON, MA
LANDSCAPE DETAIL AREAS - ENLARGEMENT PLAN 1

BETA JOB NO. 6182
ISSUE DATE 7/16/2020
SHEET NO. 51 OF 60

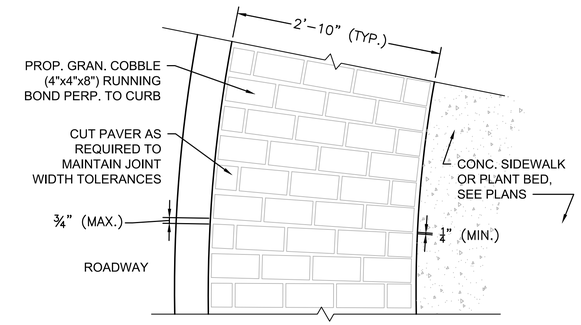
7/16/2020 10:55 AM O:\61005\6182 - CLINTON - HIGH ST STREETSCAPE\DRAWING FILES\PLANSET\6182 LANDSCAPE PLAN.DWG (BETA STB BW.STB)



PLANT BED SECTION - REFER TO LA DETAIL AREA 6
SCALE: 1"=1'–0"

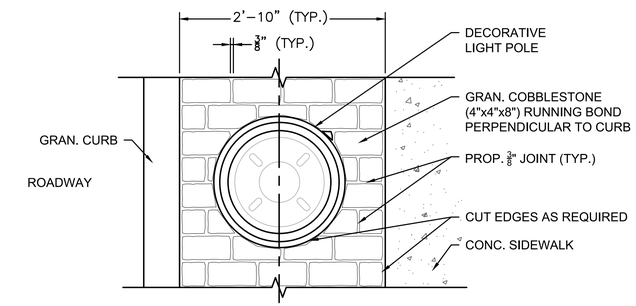


GRANITE COBBLESTONE ACCENT BAND AT CORNER
SCALE: 1"=1'–0"



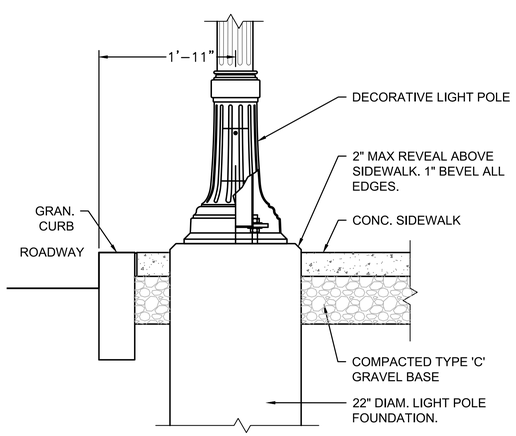
PLAN VIEW

COBBLESTONE ACCENT BAND AT RADIAL CURB
SCALE: 1"=1'–0"

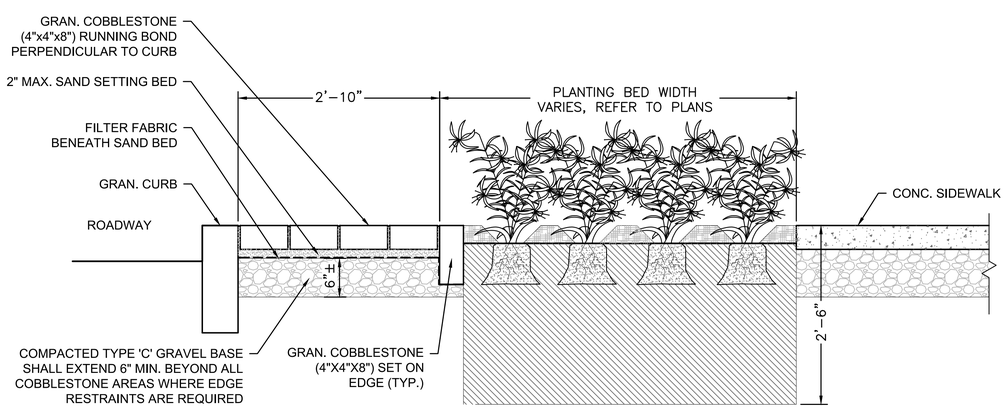


PLAN VIEW

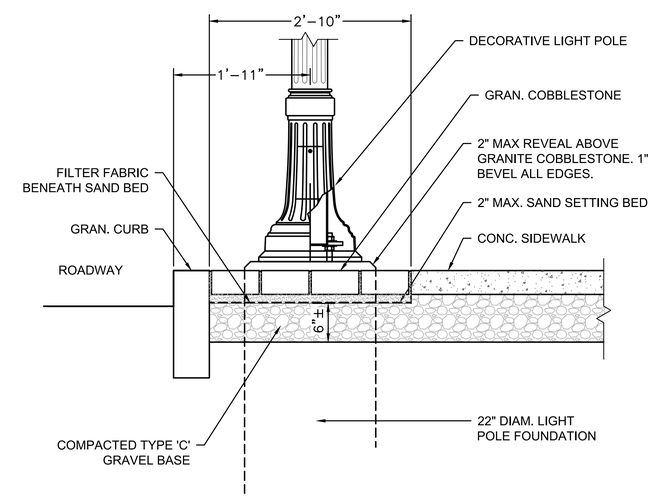
COBBLESTONE ACCENT BAND AT STRAIGHT CURB
SCALE: 1"=1'–0"



SECTION / ELEVATION OF LIGHT POLE AT CURB
SCALE: 1"=1'–0"



GRANITE COBBLESTONE ACCENT BAND AND PLANT BED - SECTION
SCALE: 1"=1'–0"



COBBLESTONE ACCENT BAND - SECTION AT CURB
SCALE: 1"=1'–0"

NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: INITIALS
DESIGNED BY: INITIALS
CHECKED BY: INITIALS

REGISTERED PROFESSIONAL: For Review Only

PREPARED BY: BETA www.BETA-Inc.com

SUBCONSULTANT

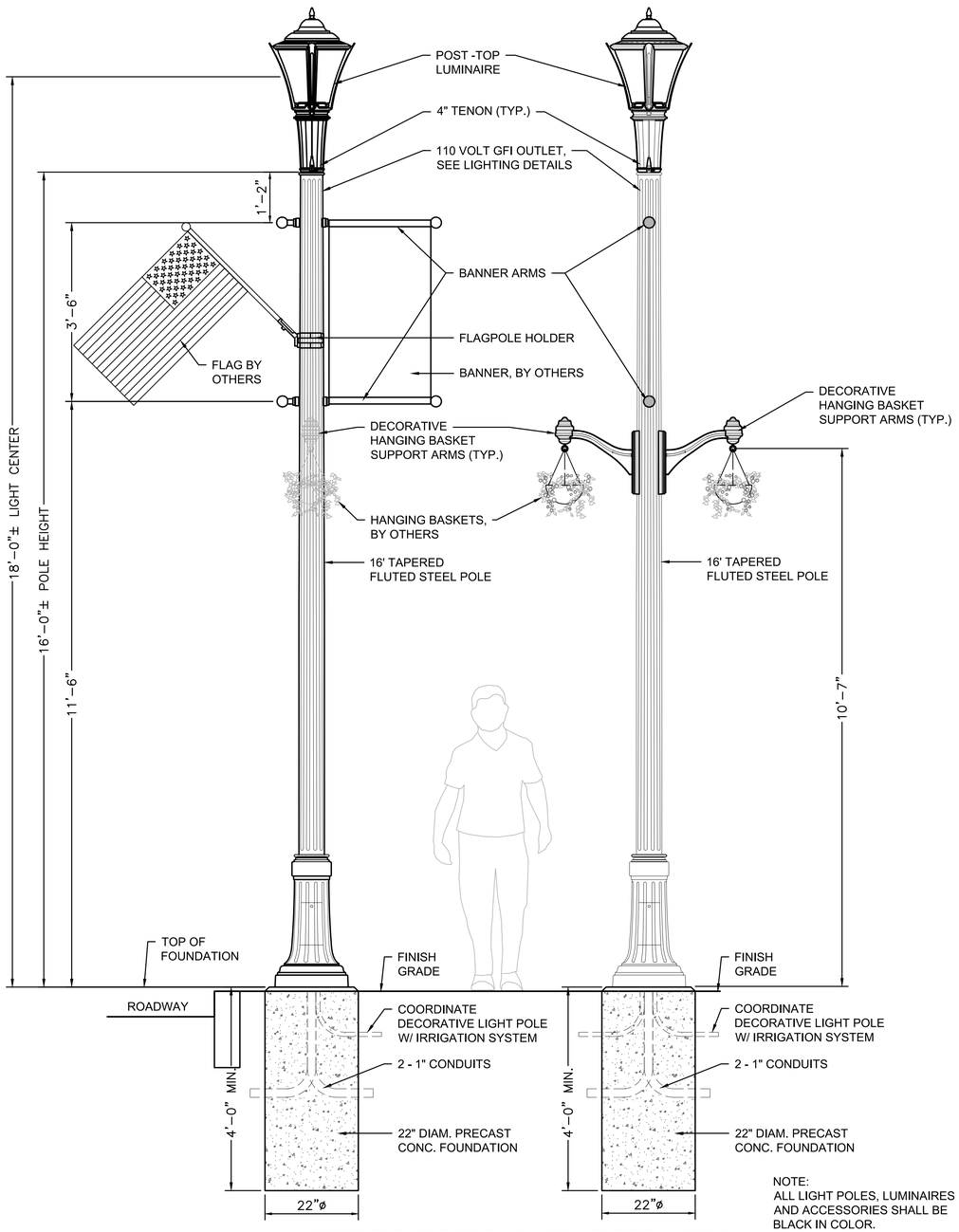
SCALE: AS SHOWN
UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE: HIGH STREET STREETSCAPE
CLINTON, MA

LANDSCAPE DETAILS

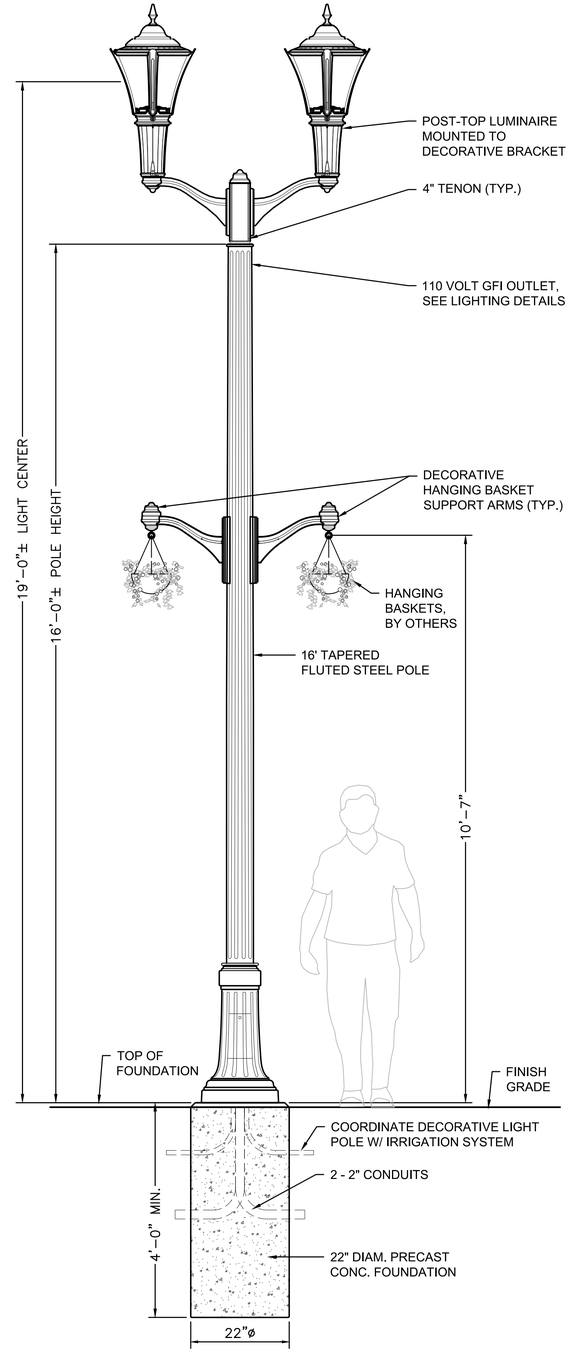
BETA JOB NO. 6182
ISSUE DATE 7/16/2020
SHEET NO. 52 OF 60

7/16/2020 10:56 AM O:\6100S\6182 - CLINTON - HIGH ST STREETSCAPE\DRAWING FILES\PLANSET\6182 LANDSCAPE DETAILS.DWG (BETA STB BW.STB)

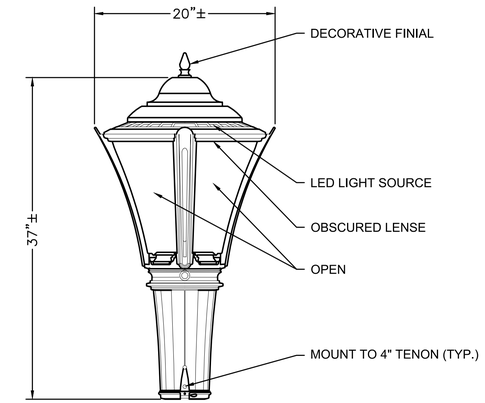


NOTE:
ALL LIGHT POLES, LUMINAIRES AND ACCESSORIES SHALL BE BLACK IN COLOR.

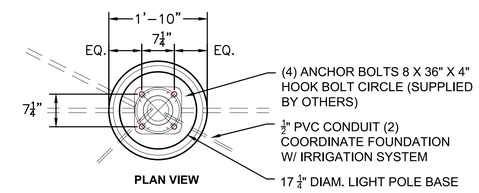
DECORATIVE LIGHT POLE AND LUMINAIRE TYPE A - SINGLE
SCALE: $\frac{3}{4}$"=1'-0"



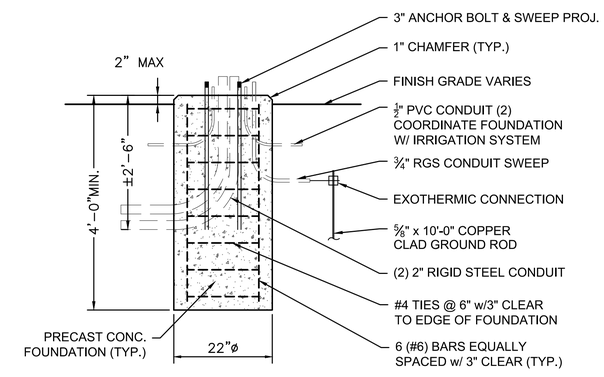
DECORATIVE LIGHT POLE AND LUMINAIRE TYPE B - DOUBLE
SCALE: $\frac{3}{4}$"=1'-0"



POST-TOP LUMINAIRE (TYP.)
SCALE: $1\frac{1}{2}$"=1'-0"



PLAN VIEW



SECTION / ELEVATION

NOTE:
FOUNDATION DEPTH AND REINFORCING SHOWN FOR GENERAL REFERENCE ONLY. CONTRACTOR SHALL SUBMIT FULL SHOP DRAWINGS PREPARED BY MASSACHUSETTS LICENSED P.E. FOR REVIEW AND FINAL APPROVAL.

DECORATIVE LIGHT POLE FOUNDATION (TYP.)
SCALE: $\frac{3}{4}$"=1'-0"

NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: INITIALS
DESIGNED BY: INITIALS
CHECKED BY: INITIALS

REGISTERED PROFESSIONAL: For Review Only

PREPARED BY: BETA www.BETA-Inc.com

SUBCONSULTANT

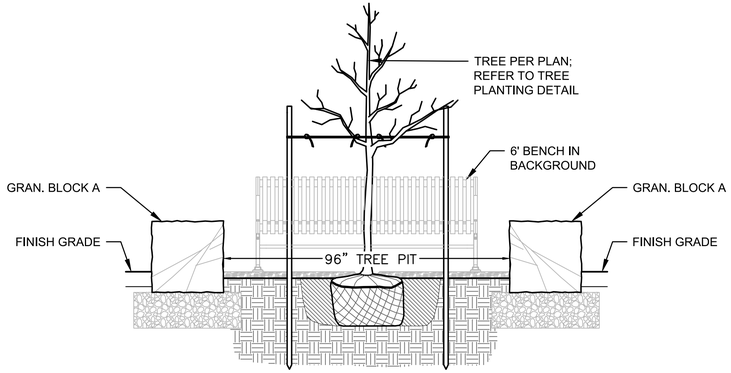
SCALE: AS SHOWN
UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE: HIGH STREET STREETSCAPE
CLINTON, MA

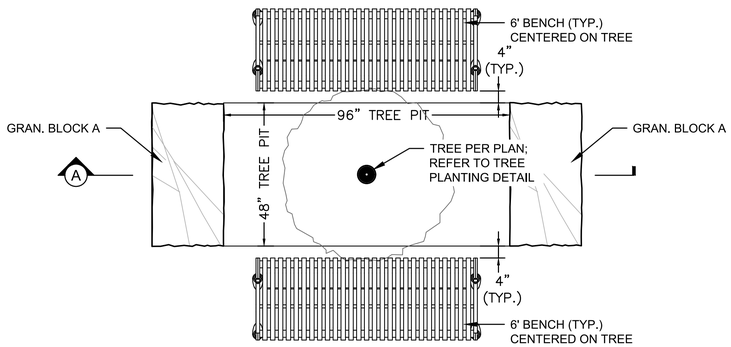
LANDSCAPE DETAILS

BETA JOB NO. 6182
ISSUE DATE 7/16/2020
SHEET NO. 53 OF 60

7/16/2020 10:57 AM O:\6100\S\6182 - CLINTON - HIGH ST STREETSCAPE\DRAWING FILES\PLANSET\6182 LANDSCAPE DETAILS.DWG (BETA STB BW.STB)



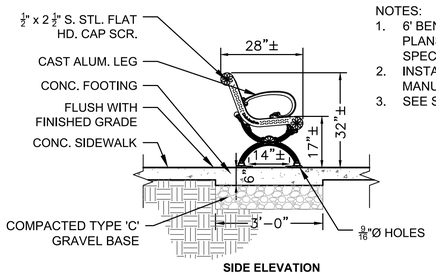
SECTION A



PLAN VIEW

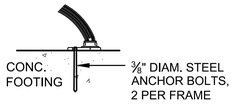
SEATING AT TREE PIT

SCALE: $\frac{1}{2}$"=1'–0"

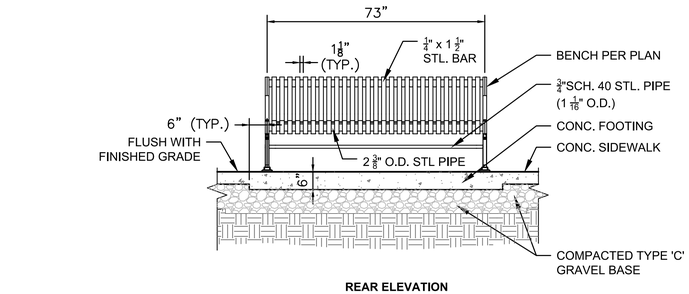


SIDE ELEVATION

NOTES:
1. 6' BENCHES SHALL BE MOUNTED AT LOCATION SHOWN ON PLANS WITH MANUFACTURER'S MOUNTING KIT, SEE SPECIFICATIONS.
2. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
3. SEE SPECIFICATIONS FOR MANUFACTURER, MODEL, & FINISH.



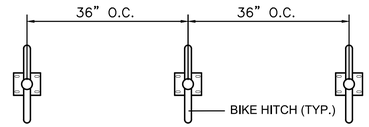
MOUNTING DETAIL
NOT TO SCALE



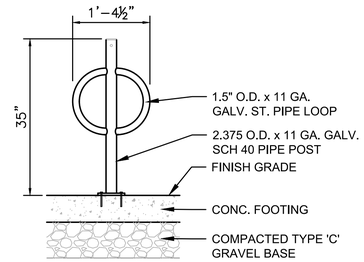
REAR ELEVATION

BENCH

SCALE: $\frac{1}{2}$" = 1'–0"



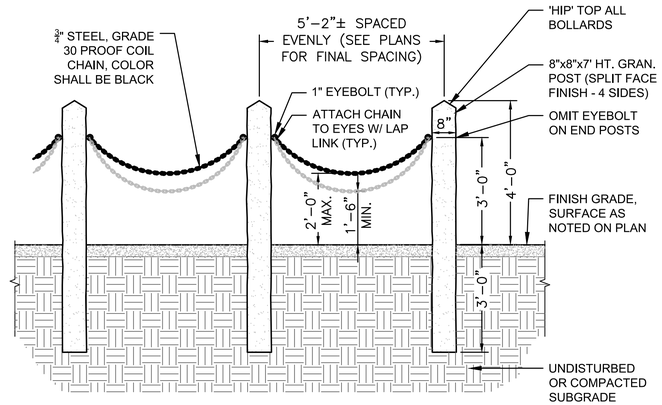
PLAN VIEW



SECTION / ELEVATION

BIKE HITCH

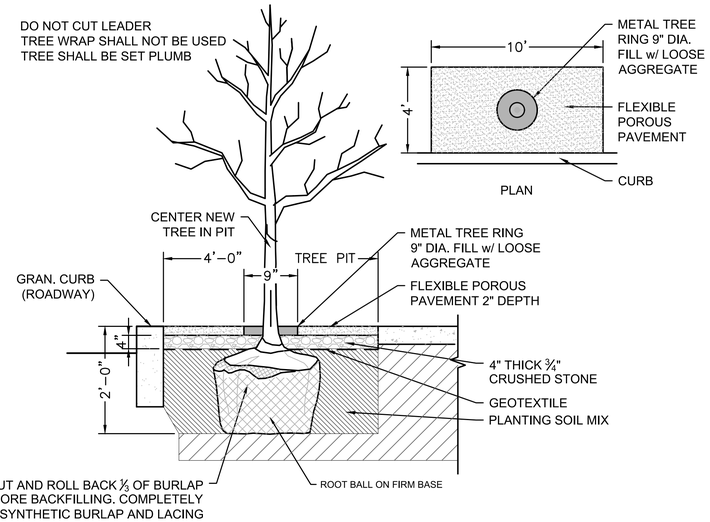
SCALE: $\frac{3}{4}$"=1'–0"



NOTE:
ALL HARDWARE AND CHAIN SHALL BE POWDER COAT PAINT, COLOR BLACK.

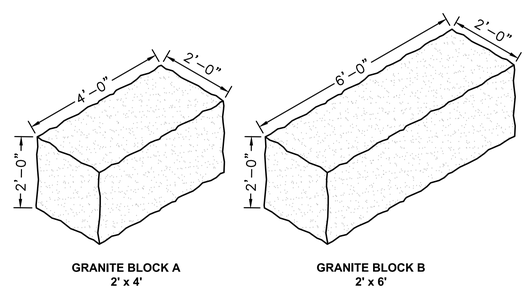
GRANITE BOLLARD & CHAIN

SCALE: $\frac{1}{2}$"=1'–0"



FLEXIBLE POROUS PAVEMENT AT PROPOSED TREES

SCALE: $\frac{3}{4}$"=1'–0"

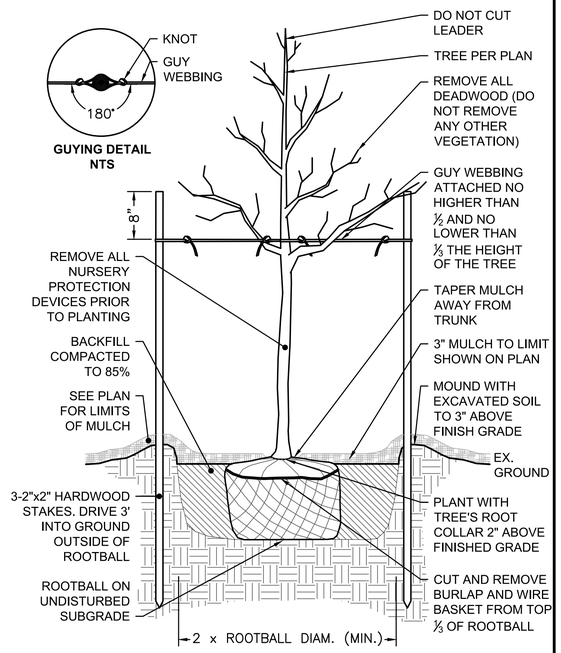


GRANITE BLOCK A
2' x 4'

GRANITE BLOCK B
2' x 6'

GRANITE BLOCK

SCALE: $\frac{1}{2}$"=1'–0"

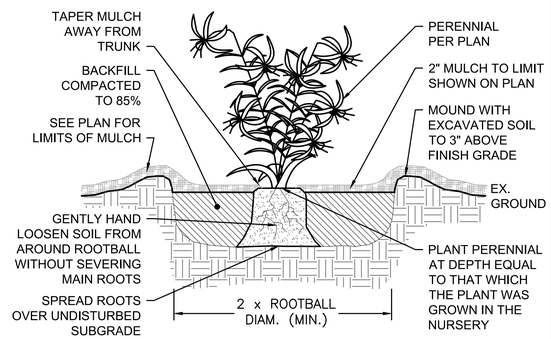


GUYING DETAIL
NTS

NOTE:
AFTER THE GUARANTEE PERIOD THE CONTRACTOR WILL BE RESPONSIBLE FOR THE REMOVAL OF STAKES AND GUY WEBBING.

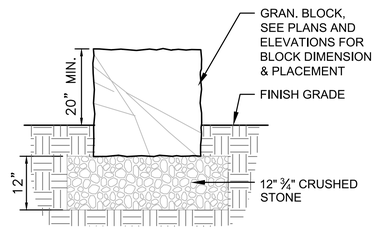
DECIDUOUS TREE STAKING & PLANTING

NOT TO SCALE



PERENNIALS & GRASSES PLANTING

NOT TO SCALE



GRANITE BLOCK INSTALLATION

SCALE: $\frac{3}{4}$"=1'–0"

###
###

NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: INITIALS
DESIGNED BY: INITIALS
CHECKED BY: INITIALS

REGISTERED PROFESSIONAL: For Review Only

PREPARED BY: BETA www.BETA-Inc.com

SUBCONSULTANT

SCALE: AS SHOWN

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE: HIGH STREET STREETSCAPE
CLINTON, MA

LANDSCAPE DETAILS

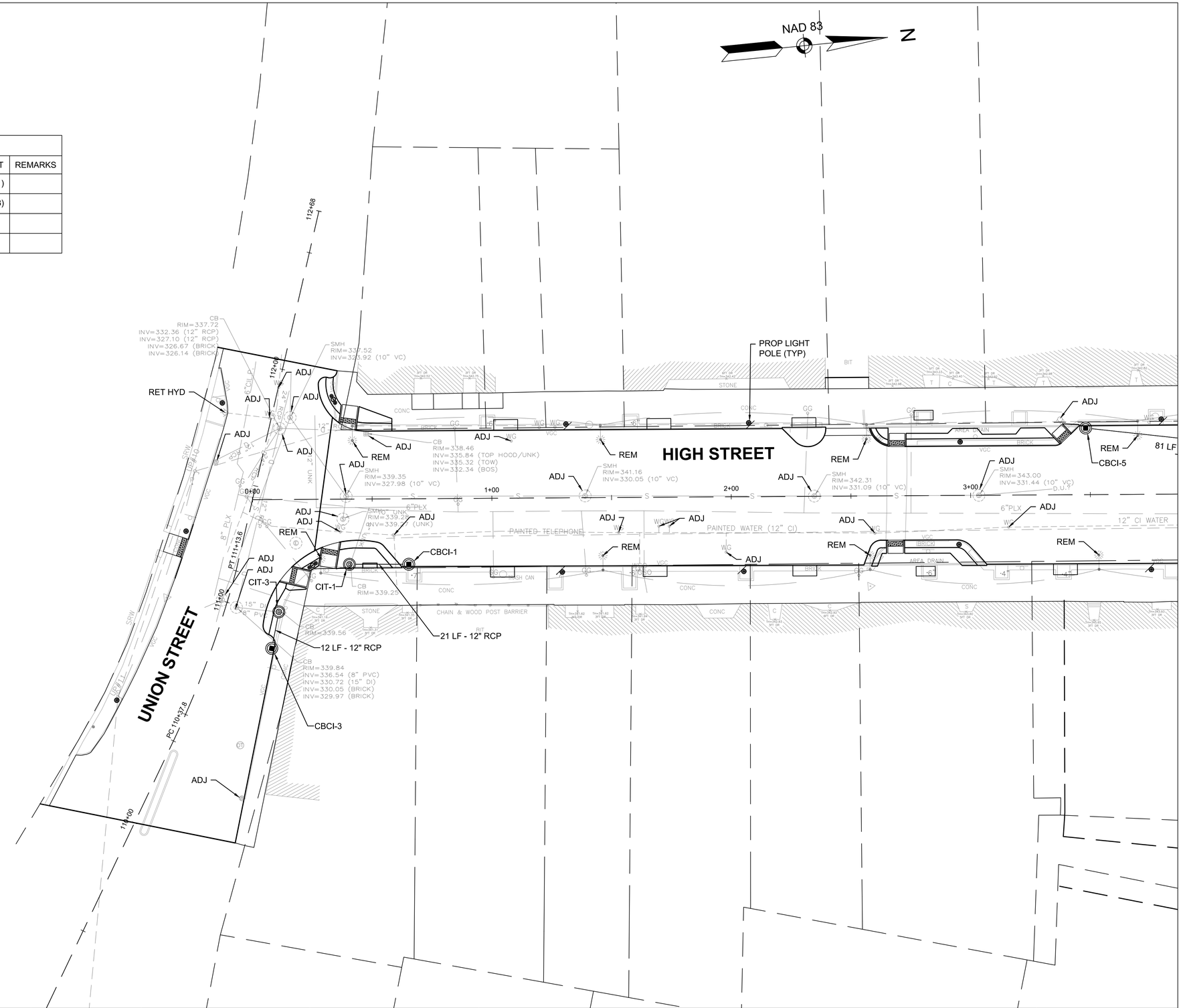
BETA JOB NO. 6182
ISSUE DATE 7/16/2020
SHEET NO. 54 OF 60

7/16/2020 11:01 AM O:\6100\S\6182 - CLINTON - HIGH ST STREETSCAPE\DRAWING FILES\PLANSET\6182 LANDSCAPE DETAILS.DWG (BETA STB BW.STB)

DRAINAGE STRUCTURE TABLE						
NAME	STATION	OFFSET	RIMS	INV. ELEV. IN	INV. ELEV. OUT	REMARKS
CBCI-1	0+65.14	27.3 R	340.12'		I=336.72' (CIT-1)	
CBCI-3	110+87.68	23.6 R	340.01'		I=336.61' (CIT-3)	
CIT-1	0+40.34	27.2 R	340.51'	I=336.47' (CBCI-1)	EXIST INVERT	
CIT-3	111+02.34	21.9 R	340.45'	I=336.45' (CBCI-3)	EXIST INVERT	

UTILITY PLANS GENERAL NOTES:

1. ALL EXISTING UTILITY STRUCTURES SHALL BE RETAINED UNLESS OTHERWISE NOTED OR AT THE DIRECTION OF THE ENGINEER.
2. UTILITY POLES TO BE RETAINED UNLESS OTHERWISE NOTED. EXISTING LIGHT FIXTURES MOUNTED ON UTILITY POLES MOUNTED ON UTILITY POLE SHALL BE REMOVED BY OTHERS.
3. TEST PITS FOR POTENTIAL UTILITY CONFLICTS SHALL BE COMPLETED PRIOR TO ANY UTILITY CONSTRUCTION IS PERFORMED (MIN. 30 DAYS PRIOR). ALL RESULTS TO ENGINEER FOR REVIEW.
4. EXISTING DRAINAGE, WATER OR SEWER PIPE WITHIN THE ALIGNMENT OF THE PROPOSED PIPE SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR AS PART OF THE WORK TO INSTALL NEW PIPE.
5. ALL EXISTING PRIVATE UTILITY STRUCTURES SHALL BE ADJUSTED AS NECESSARY TO THE PROPOSED FINISH GRADE BY OTHERS UNLESS OTHERWISE NOTED ON THE PLANS.
6. ALL CATCH BASINS AND MANHOLES SHALL HAVE CONCENTRIC CONE TOPS UNLESS OTHERWISE NOTED ON THE PLANS.
7. ALL WATER SERVICE BOXES / WATER SHUT OFFS TO ABUTTERS SHALL BE ADJUSTED UNLESS OTHERWISE NOTED ON THE PLANS. THE CONTRACTOR IS ADVISED THAT WATER SERVICE BOXES (WSO) MAY BE BURIED. BURIED BOXES SHALL ALSO BE ADJUSTED.
8. ANY CHANGES TO THE PROPOSED DRAINAGE, INCLUDING INVERTS AND LOCATIONS, SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW.



NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: NJM
DESIGNED BY: CJT
CHECKED BY: TJL

REGISTERED PROFESSIONAL

PREPARED BY: BETA www.BETA-Inc.com

SUBCONSULTANT

SCALE: 20 0 20 40 — SCALE IN FEET: 1"=20'

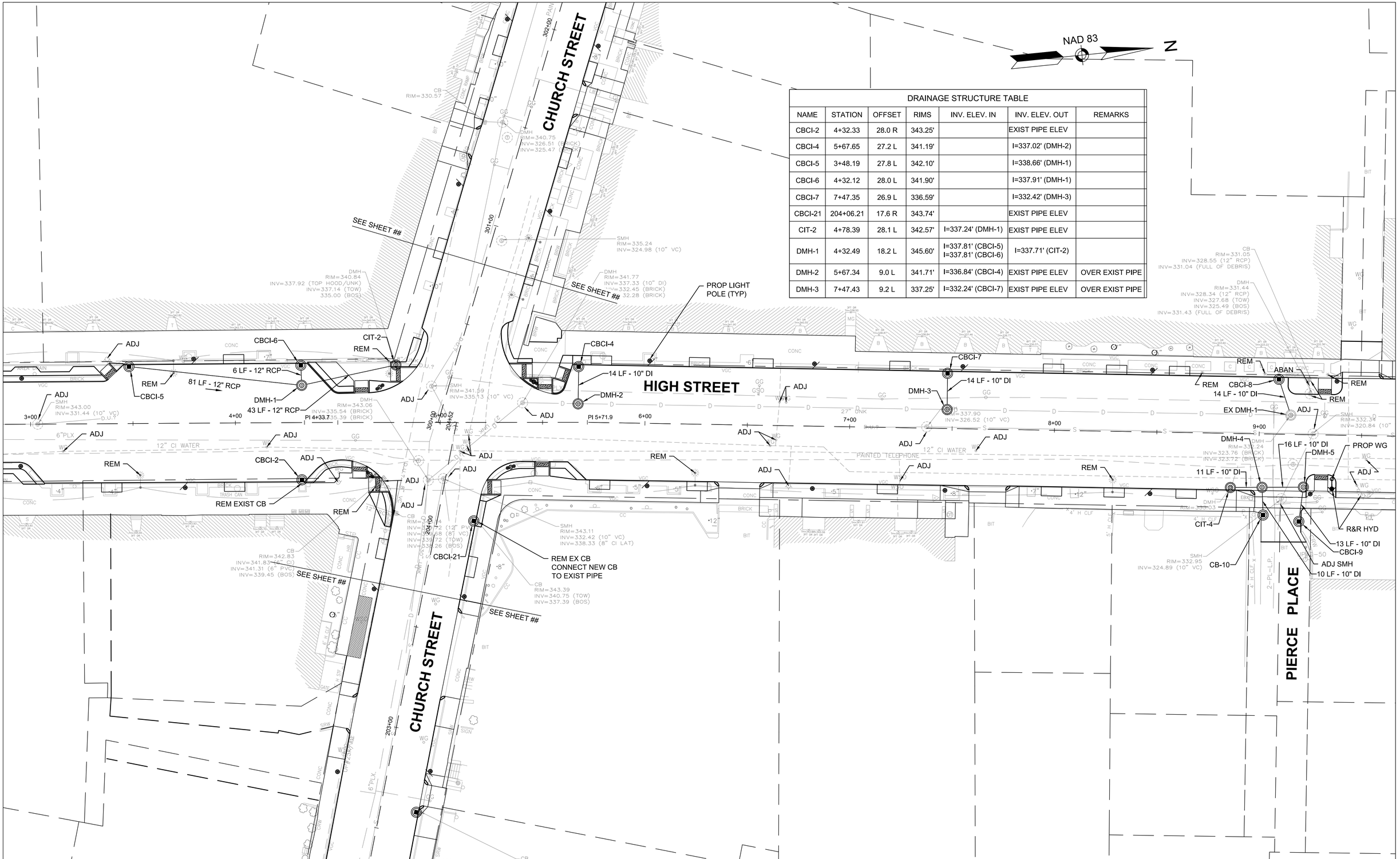
UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE: HIGH STREET STREETSCAPE
CLINTON, MA

UTILITIES PLAN

BETA JOB NO. 6182
ISSUE DATE 7/16/2020
SHEET NO. 55 OF 60

O:\6100S\6182 - CLINTON - HIGH ST STREETSCAPE\DRAWING FILES\PLANSET\6182 UTILITIES PLAN.DWG (BETA STB BW.STB)



DRAINAGE STRUCTURE TABLE						
NAME	STATION	OFFSET	RIMS	INV. ELEV. IN	INV. ELEV. OUT	REMARKS
CBCI-2	4+32.33	28.0 R	343.25'		EXIST PIPE ELEV	
CBCI-4	5+67.65	27.2 L	341.19'		I=337.02' (DMH-2)	
CBCI-5	3+48.19	27.8 L	342.10'		I=338.66' (DMH-1)	
CBCI-6	4+32.12	28.0 L	341.90'		I=337.91' (DMH-1)	
CBCI-7	7+47.35	26.9 L	336.59'		I=332.42' (DMH-3)	
CBCI-21	204+06.21	17.6 R	343.74'		EXIST PIPE ELEV	
CIT-2	4+78.39	28.1 L	342.57'	I=337.24' (DMH-1)	EXIST PIPE ELEV	
DMH-1	4+32.49	18.2 L	345.60'	I=337.81' (CBCI-5) I=337.81' (CBCI-6)	I=337.71' (CIT-2)	
DMH-2	5+67.34	9.0 L	341.71'	I=336.84' (CBCI-4)	EXIST PIPE ELEV	OVER EXIST PIPE
DMH-3	7+47.43	9.2 L	337.25'	I=332.24' (CBCI-7)	EXIST PIPE ELEV	OVER EXIST PIPE

NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: NJM
DESIGNED BY: CJT
CHECKED BY: TJL

REGISTERED PROFESSIONAL

PREPARED BY: BETA www.BETA-Inc.com

SUBCONSULTANT

SCALE: 20 0 20 40 — SCALE IN FEET: 1"=20'
UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE

HIGH STREET STREETSCAPE
CLINTON, MA

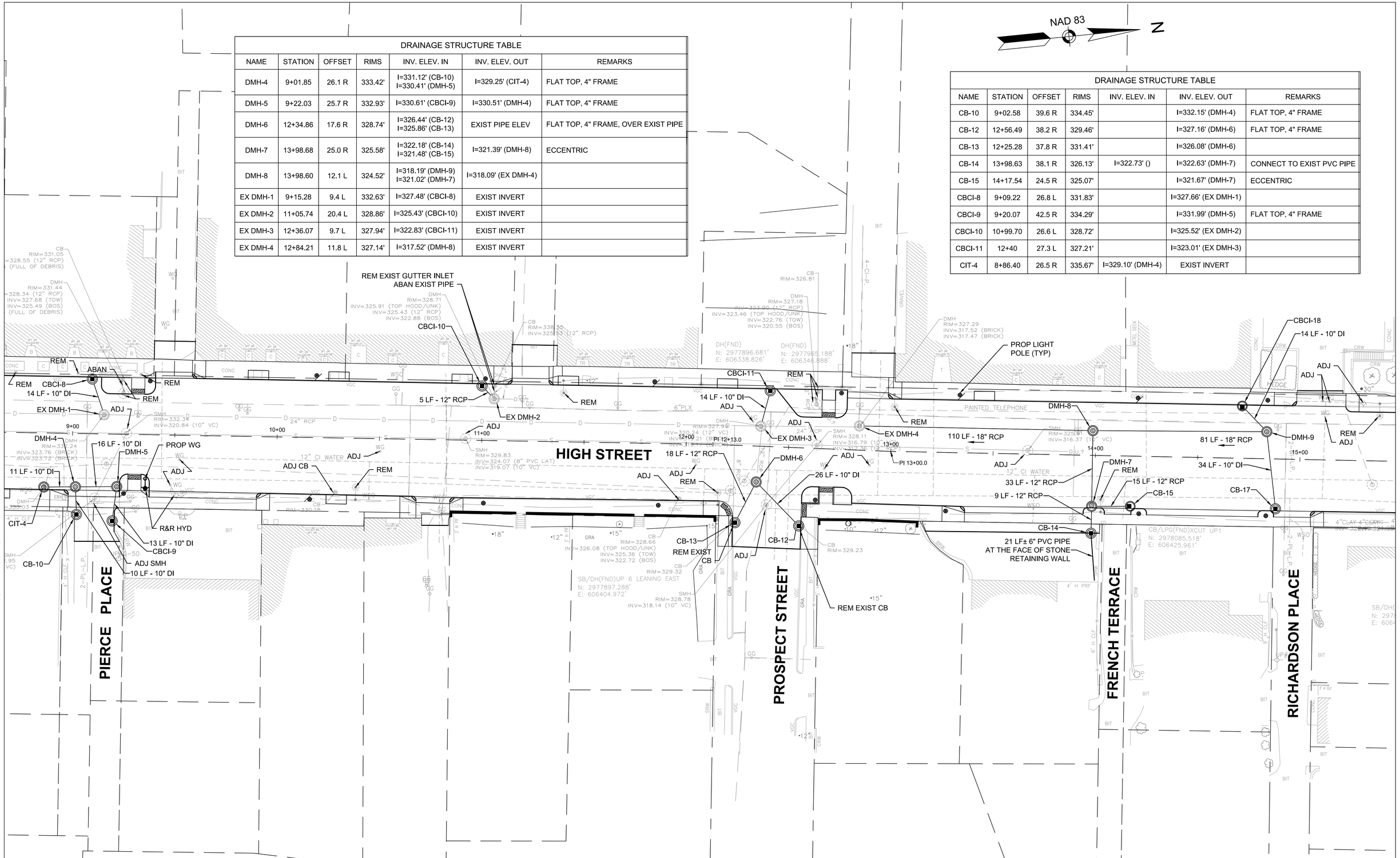
UTILITIES PLAN

BETA JOB NO. 6182
ISSUE DATE 7/16/2020
SHEET NO. 56 OF 60

O:\6100S\6182 - CLINTON - HIGH ST STREETSCAPE\DRAWING FILES\PLANSET\6182 UTILITIES PLAN.DWG (BETA STB BW.STB)

DRAINAGE STRUCTURE TABLE						
NAME	STATION	OFFSET	RIMS	INV. ELEV. IN	INV. ELEV. OUT	REMARKS
DMH-4	9+01.85	26.1 R	333.42'	I=331.12' (CB-10) I=330.41' (DMH-5)	I=329.25' (CIT-4)	FLAT TOP, 4" FRAME
DMH-5	9+22.03	25.7 R	332.93'	I=330.61' (CBCI-9)	I=330.51' (DMH-4)	FLAT TOP, 4" FRAME
DMH-6	12+34.86	17.6 R	328.74'	I=326.44' (CB-12) I=325.86' (CB-13)	EXIST PIPE ELEV	FLAT TOP, 4" FRAME, OVER EXIST PIPE
DMH-7	13+98.68	25.0 R	325.58'	I=322.18' (CB-14) I=321.48' (CB-15)	I=321.39' (DMH-8)	ECCENTRIC
DMH-8	13+98.60	12.1 L	324.52'	I=318.19' (DMH-9) I=321.02' (DMH-7)	I=318.09' (EX DMH-4)	
EX DMH-1	9+15.28	9.4 L	332.63'	I=327.48' (CBCI-8)	EXIST INVERT	
EX DMH-2	11+05.74	20.4 L	328.86'	I=325.43' (CBCI-10)	EXIST INVERT	
EX DMH-3	12+36.07	9.7 L	327.94'	I=322.83' (CBCI-11)	EXIST INVERT	
EX DMH-4	12+84.21	11.8 L	327.14'	I=317.52' (DMH-8)	EXIST INVERT	

DRAINAGE STRUCTURE TABLE						
NAME	STATION	OFFSET	RIMS	INV. ELEV. IN	INV. ELEV. OUT	REMARKS
CB-10	9+02.58	39.6 R	334.45'		I=332.15' (DMH-4)	FLAT TOP, 4" FRAME
CB-12	12+56.49	38.2 R	329.46'		I=327.16' (DMH-6)	FLAT TOP, 4" FRAME
CB-13	12+25.28	37.8 R	331.41'		I=326.08' (DMH-6)	
CB-14	13+98.63	38.1 R	326.13'	I=322.73' ()	I=322.63' (DMH-7)	CONNECT TO EXIST PVC PIPE
CB-15	14+17.54	24.5 R	325.07'		I=321.67' (DMH-7)	ECCENTRIC
CBCI-8	9+09.22	26.8 L	331.83'		I=327.66' (EX DMH-1)	
CBCI-9	9+20.07	42.5 R	334.29'		I=331.99' (DMH-5)	FLAT TOP, 4" FRAME
CBCI-10	10+99.70	26.6 L	328.72'		I=325.52' (EX DMH-2)	
CBCI-11	12+40	27.3 L	327.21'		I=323.01' (EX DMH-3)	
CIT-4	8+86.40	26.5 R	335.67'	I=329.10' (DMH-4)	EXIST INVERT	



NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: NJM
DESIGNED BY: CJT
CHECKED BY: TJL

REGISTERED PROFESSIONAL

PREPARED BY: BETA www.BETA-Inc.com

SUBCONSULTANT

SCALE: 20 0 20 40 — SCALE IN FEET: 1"=20'
UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE

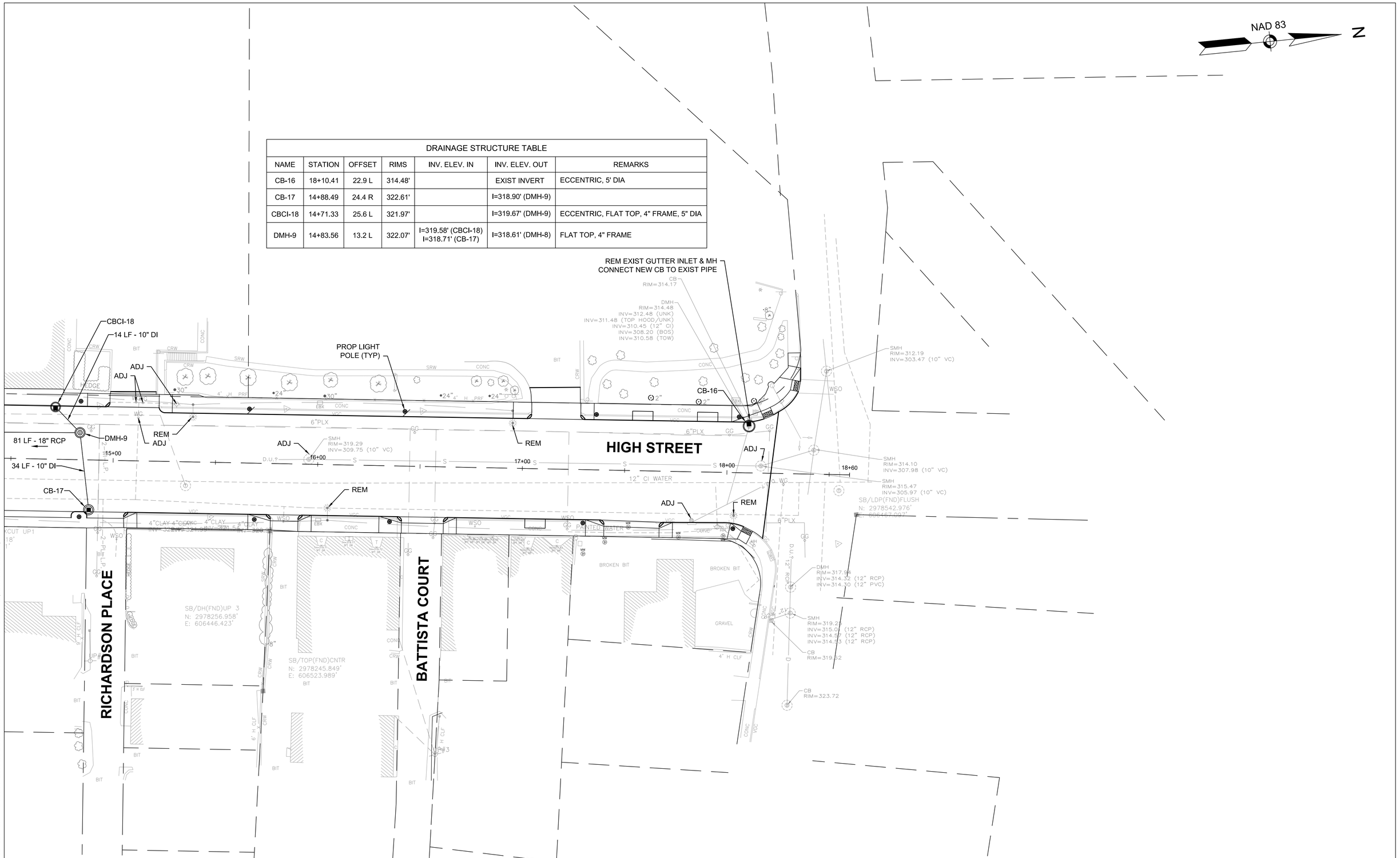
HIGH STREET STREETSCAPE
CLINTON, MA

UTILITIES PLAN

BETA JOB NO. 6182
ISSUE DATE 7/16/2020
SHEET NO. 57 OF 60

O:\6100S\6182 - CLINTON - HIGH ST STREETSCAPE\DRAWING FILES\PLANSET\6182 UTILITIES PLAN.DWG (BETA STB BW.STB)

DRAINAGE STRUCTURE TABLE						
NAME	STATION	OFFSET	RIMS	INV. ELEV. IN	INV. ELEV. OUT	REMARKS
CB-16	18+10.41	22.9 L	314.48'		EXIST INVERT	ECCENTRIC, 5' DIA
CB-17	14+88.49	24.4 R	322.61'		I=318.90' (DMH-9)	
CBCI-18	14+71.33	25.6 L	321.97'		I=319.67' (DMH-9)	ECCENTRIC, FLAT TOP, 4" FRAME, 5" DIA
DMH-9	14+83.56	13.2 L	322.07'	I=319.58' (CBCI-18) I=318.71' (CB-17)	I=318.61' (DMH-8)	FLAT TOP, 4" FRAME



NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: NJM
DESIGNED BY: CJT
CHECKED BY: TJL

REGISTERED PROFESSIONAL

PREPARED BY: BETA www.BETA-Inc.com

SUBCONSULTANT

SCALE: 20 0 20 40 — SCALE IN FEET: 1"=20'
UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

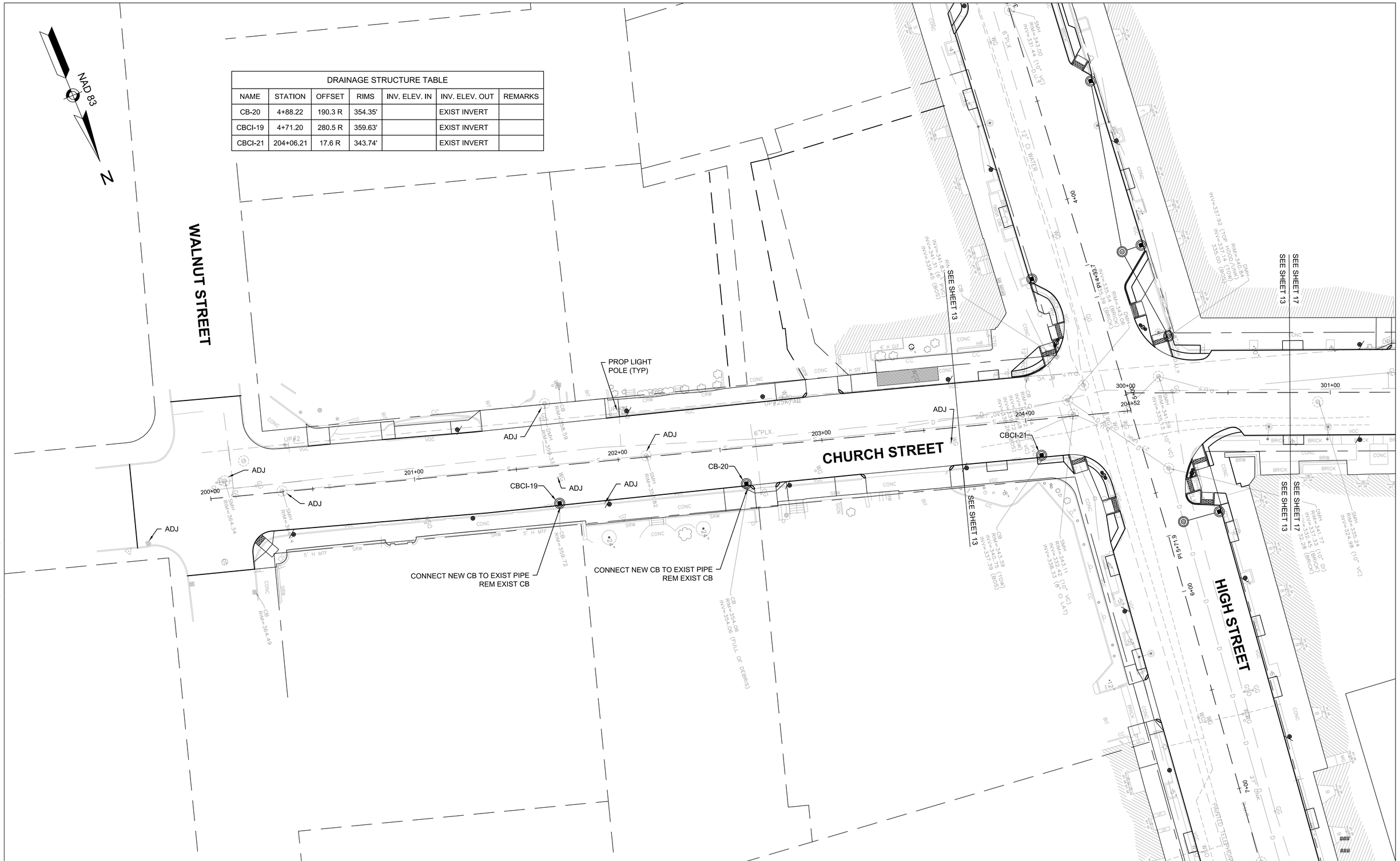
TITLE: HIGH STREET STREETSCAPE
CLINTON, MA

UTILITIES PLAN

BETA JOB NO. 6182
ISSUE DATE 7/16/2020
SHEET NO. 58 OF 60

O:\6100S\6182 - CLINTON - HIGH ST STREETSCAPE\DRAWING FILES\PLANSET\6182 UTILITIES PLAN.DWG (BETA STB BW.STB)

DRAINAGE STRUCTURE TABLE						
NAME	STATION	OFFSET	RIMS	INV. ELEV. IN	INV. ELEV. OUT	REMARKS
CB-20	4+88.22	190.3 R	354.35'		EXIST INVERT	
CBCI-19	4+71.20	280.5 R	359.63'		EXIST INVERT	
CBCI-21	204+06.21	17.6 R	343.74'		EXIST INVERT	



NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: NJM

DESIGNED BY: CJT

CHECKED BY: TJL

REGISTERED PROFESSIONAL

PREPARED BY

BETA
www.BETA-Inc.com

SUBCONSULTANT

SCALE

20 0 20 40

SCALE IN FEET: 1"=20'

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE

HIGH STREET STREETSCAPE
CLINTON, MA

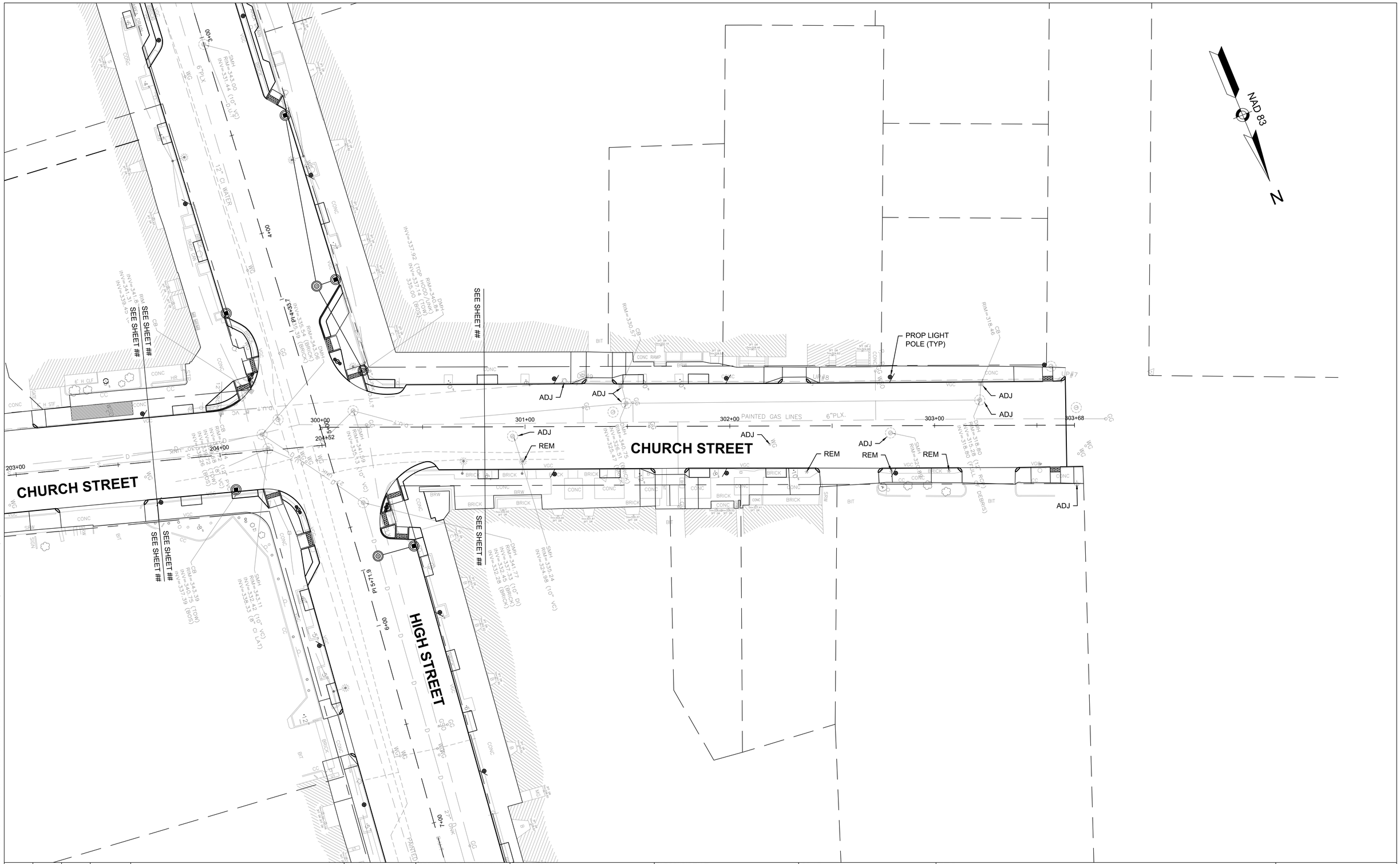
UTILITIES PLAN

BETA JOB NO. 6182

ISSUE DATE 7/16/2020

SHEET NO. 59 OF 60

O:\6100S\6182 - CLINTON - HIGH ST STREETSCAPE\DRAWING FILES\PLANSET\6182 UTILITIES PLAN.DWG (BETA STB BW.STB)



NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: NJM

DESIGNED BY: CJT

CHECKED BY: TJL

REGISTERED PROFESSIONAL

PREPARED BY

BETA
www.BETA-Inc.com

SUBCONSULTANT

SCALE

20 0 20 40

SCALE IN FEET: 1"=20'

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE

HIGH STREET STREETSCAPE
CLINTON, MA

UTILITIES PLAN

BETA JOB NO. 6182

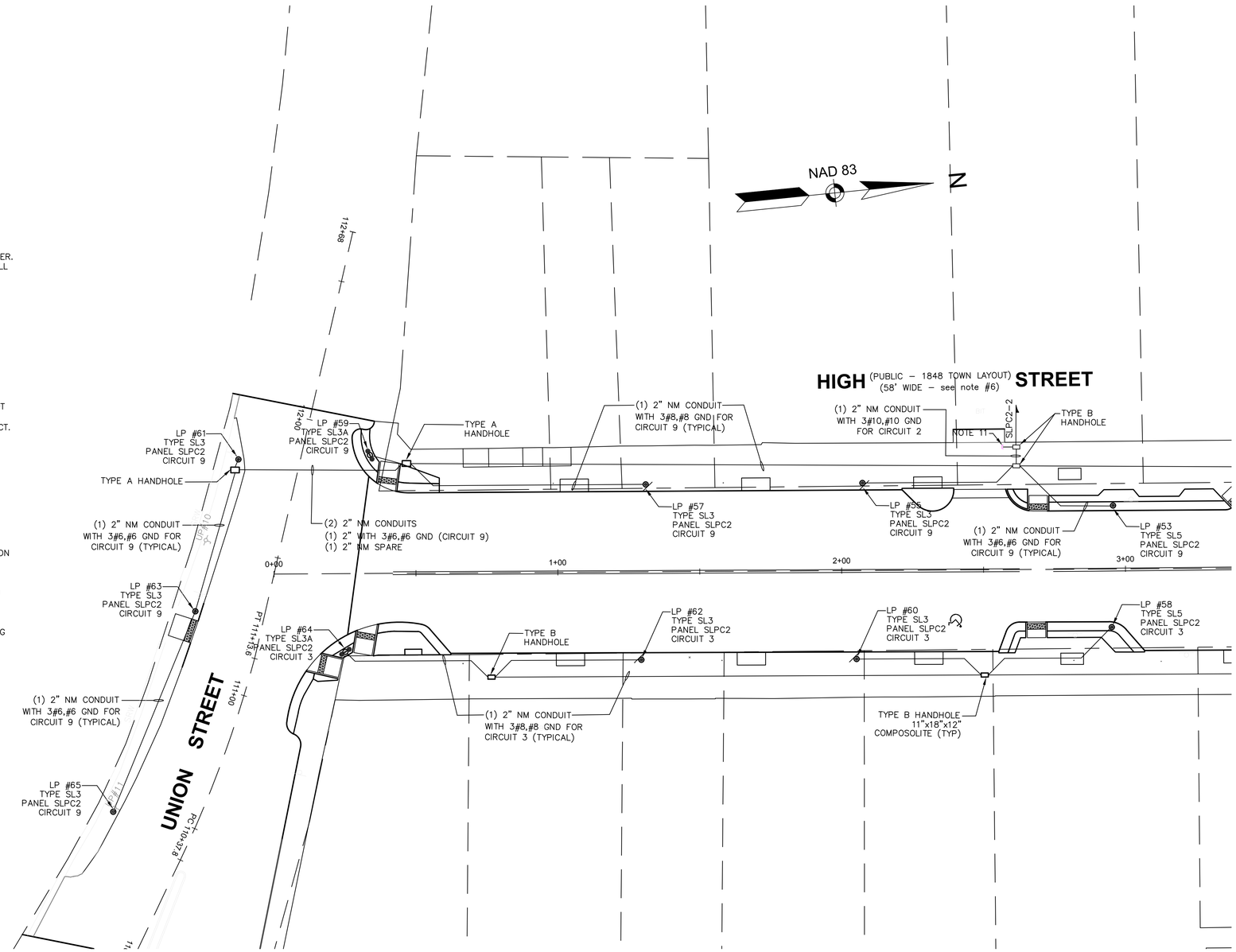
ISSUE DATE 7/16/2020

SHEET NO. 60 OF 60

O:\6100\S\6182 - CLINTON - HIGH ST STREETSCAPE\DRAWING FILES\PLANSET\6182 UTILITIES PLAN.DWG (BETA STB BW.STB)

NOTES:

1. ALL WORK SHALL CONFORM TO THE LATEST REVISIONS OF THE NATIONAL ELECTRICAL CODE, THE COMMONWEALTH OF MASSACHUSETTS ROADWAY STANDARDS AND SPECIFICATIONS AND THE REQUIREMENTS FOR THE TOWN OF CLINTON.
2. ALL WORK SHALL BE COORDINATED WITH LOCAL PUBLIC UTILITIES. NO WORK SHALL COMMENCE UNTIL THE CONTRACTOR HAS NOTIFIED DIG–SAFE AND ALL EXISTING UTILITIES HAVE BEEN PROPERLY NOTIFIED. CONTRTACTOR SHALL CONFIRM AND VERIFY LOCATION OF ALL EXISTING UTILITIES BEFORE INSTALLATION OF RACEWAY, HANDHOLES, LIGHTING FIXTURES AND POLE BASES. ANY DAMAGE TO THE UTILITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
3. ALL LIGHTING CONDUITS SHALL BE 2" PVC SCHEDULE 80 NM (NON–METALLIC), EXCEPT WHERE OTHERWISE SHOWN. INSTALL NYLON PULL STRING IN ALL SPARE CONDUITS FOR FUTURE USE. SERVICE CONDUIT FROM UTILITY TRANSFORMER SHALL BE 3" PVC SCHED 80.
4. ALL RACEWAY SHALL BE INSTALLED AT A MIN DEPTH OF 30", UNLESS DIRECTED BY THE ENGINEER. WHEN MULTIPLE CONDUITS ARE INSTALLED IN THE SAME TRENCH THE CONTRACTOR SHALL INSTALL RACEWAY SPACES AS INCIDENTAL TO THE WORK.
5. PROVIDE LUG REDUCERS AND TERMINATING STUDS AS REQUIRED.
6. CONTRACTOR SHALL COORDINATE AND CONFIRM WITH UTILITY FOR COLD/HOT SEQUENCE METERING REQUIREMENTS.
7. CONTRACTOR SHALL PROVIDE ENOUGH SLACK (CABLE) AT THE HANDHOLES AND PULLBOXES TO ALLOW FOR SPLICING AND REPAIRS TO BE MADE.
8. CONTRACTOR SHALL FURNISH AND INSTALL INDUSTRUCTIBLE, NUMBERING, PLASTIC TAGS ON ALL CIRCUITS AT ALL HANDHOLES AS PER CIRCUITS NOTED ON PLANS.
9. PRIOR TO REMOVING ANY EXISTING ELECTRICAL WIRING AND RACEWAY, CONTRACTOR SHALL CONFIRM AND COORDINATE WITH TOWN OF CLINTON THAT EXISTING WIRING & RACEWAY DOES NOT FEED ANY EXISTING ELECTRICAL DEVICES OUTSIDE OF PROJECT SCOPE. ALL EXISTING DEVICES, OUTSIDE OF PROJECT SCOPE, SHALL REMAIN ACTIVE DURING AND AFTER COMPLETION OF PROJECT.
10. CONTRACTOR SHALL CONFIRM AND COORDINATE REMOVAL OF ALL EXISTING LIGHTING FIXTURE POLES AND LUMINARES, WITHIN THE PROJECT LIMITS, WITH THE TOWN OF CLINTON ELECTRICAL DEPARTMENT. CONTRACTOR SHALL STOCKPILE AS DIRECTED.
11. RECESSED HANDHOLE FOR FUTURE WORK WITHIN EXISTING ALLEWAY. CONFIRM EXACT LOCATION WITH ENGINEER. HANDHOLE SHALL HAVE (1) DEDICATED 20A, 1P, 120V CIRCUIT TERMINAL IN WEATHERPROOF JUNCTION BOX, WITHIN HANDHOLE FOR FUTURE LIGHTING. CONTRACTOR SHALL ALSO INSTALL (1) 2" NM CONDUIT SWEEP FROM HANDHOLE TO 2 FEET BEYOND THE BACK OF THE CEMENT SIDEWALK WITHIN THE ALLEWAY TO ALLOW FOR FUTURE CONNECTION.
12. ONE (1) 1" NM CONDUIT FOR IRRIGATION CONTROLLOER ETHERNET CABLE. CONDUIT SHALL BE RUN TO NEAREST TEL/DATA HANDHOLE. CONFIRM LOCATION OF TEL/DATA HANDHOLE WITH CLINTON DEPARTMENT OF PUBLIC WORKS.
13. ALL CONDUIT LOCATIONS ARE SHOWN TO ILLUSTRATE PROPOSED LAYOUTS AND CONNECTIONS. NO CONDUITS SHALL BE INSTALLED BENEATH PLANTING AREAS OR TREE PITS UNLESS APPROVED BY THE ENGINEER.
14. CONTRACTOR SHALL FURNISH AND INSTALL (1) NEW, 3", RACEWAY WITH PULLSTRING FROM NEW ENCLOSURE TO EXISTING UTILITY POLE. CONTRACTOR SHALL CONFIRM RISER HEIGHT, UP, EXISTING POLE AND RACEWAY MATERIAL WITH LOCAL UTILITY COMPANY.



NUMBER	DATE	MADE BY	CHECKED BY	DESCRIPTION

REVISIONS

DRAWN BY: PMG

DESIGNED BY: PMG

CHECKED BY: SA

PE STAMP: COMMONWEALTH OF MASSACHUSETTS M. SALIM AFSAR ELECTRICAL No. 39083 PROFESSIONAL ENGINEER

PREPARED BY: BETA www.BETA-Inc.com

WB&A Wozny/Barbar & Associates, Inc. CONSULTING ENGINEERS
1076 Washington Street Hanover, MA 02339 Tel: (781) 826-4144 Fax: (781) 924-5792 www.wbaengineers.com
161 Exchange Street 3rd Floor Pawtucket, RI 02860

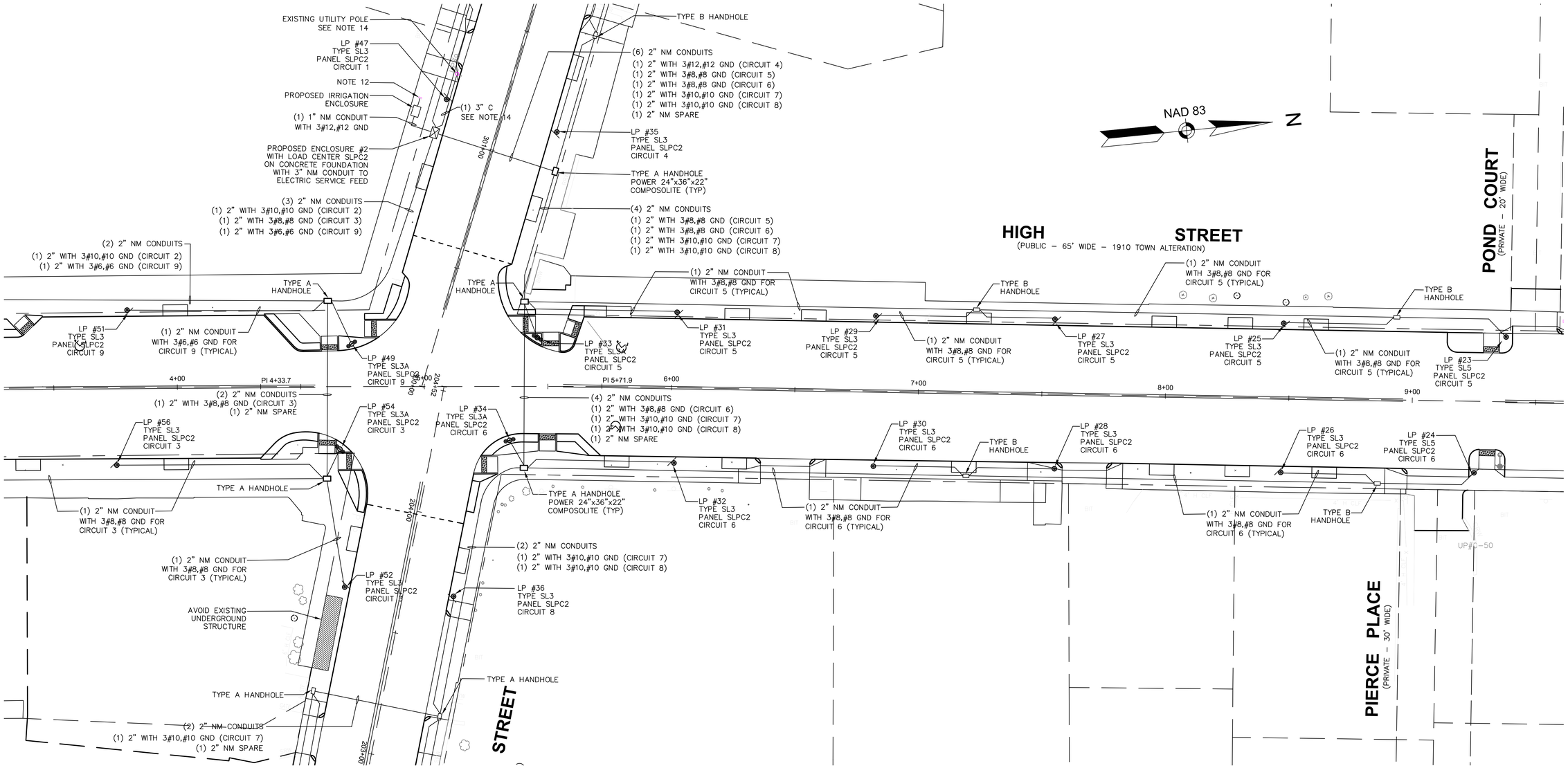
SCALE: 0 20 50 100
SCALE: 1" = 20'

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

HIGH STREET STREETSCAPE
CLINTON, MA

LIGHTING PLAN

BETA JOB NO. 6182
ISSUE DATE JULY 2020
SHEET 1 of 6



NOTES:

1. REFER TO LIGHTING PLAN SHEET 1 OF 6 FOR ADDITIONAL NOTES

NUMBER	DATE	MADE BY	CHECKED BY	DESCRIPTION

REVISIONS

DRAWN BY: PMG

DESIGNED BY: PMG

CHECKED BY: SA

PE STAMP: COMMONWEALTH OF MASSACHUSETTS M. SALIM AFSAR ELECTRICAL No. 39083 PROFESSIONAL ENGINEER

PREPARED BY: BETA www.BETA-Inc.com

WB&A Worsy/Barbar & Associates, Inc. CONSULTING ENGINEERS
1076 Washington Street, Hanover, MA 02339, Tel: (781) 826-4144, Fax: (781) 924-5792, www.wbaengineers.com
161 Exchange Street, 3rd Floor, Pawtucket, RI 02860

SCALE: 0 20 50 100
SCALE: 1" = 20'

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

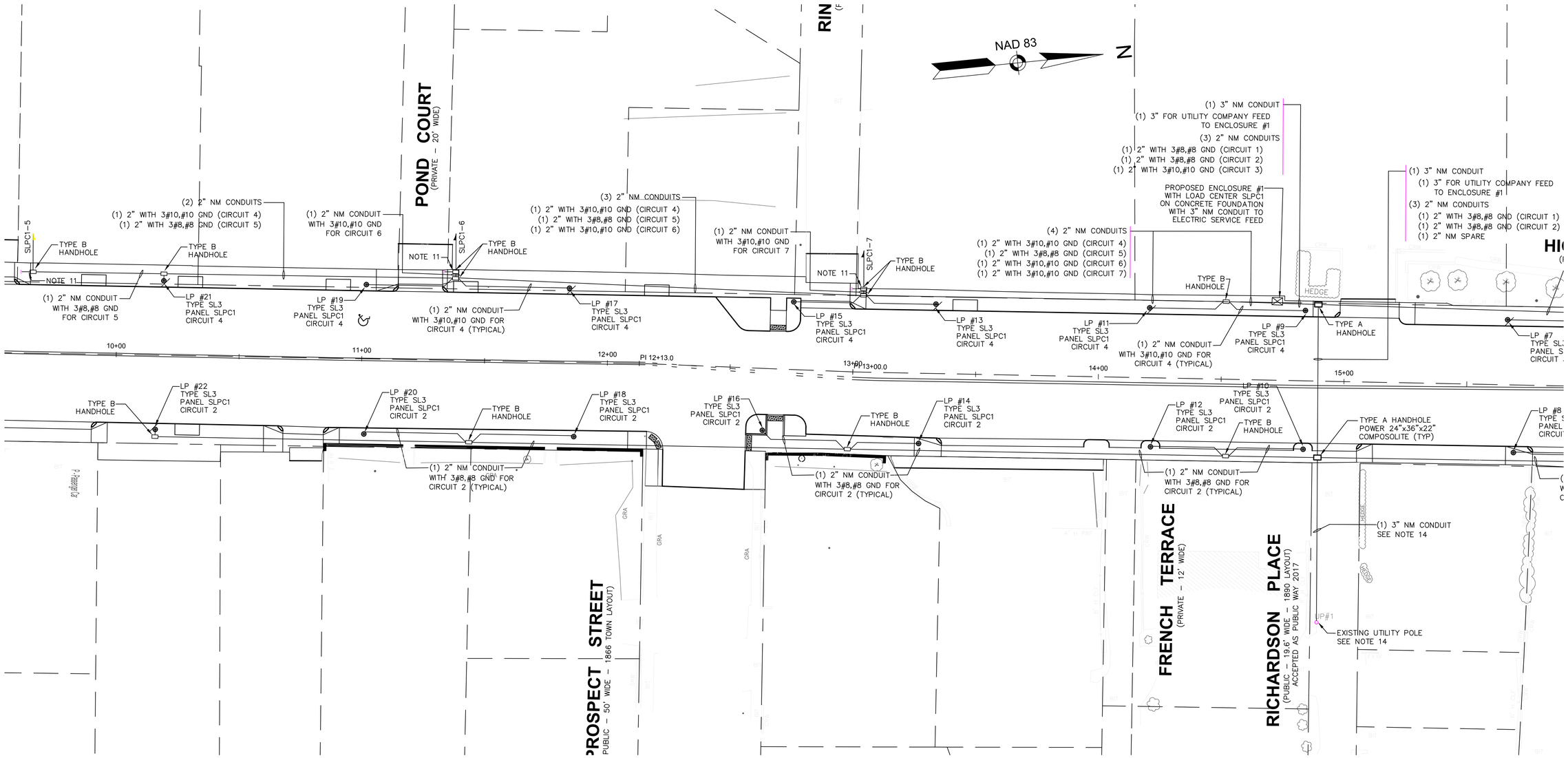
HIGH STREET STREETSCAPE
CLINTON, MA

LIGHTING PLAN

BETA JOB NO. 6182

ISSUE DATE JULY 2020

SHEET 2 of 6



NOTES:

1. REFER TO LIGHTING PLAN SHEET 1 OF 6 FOR ADDITIONAL NOTES

NUMBER	DATE	MADE BY	CHECKED BY	DESCRIPTION

REVISIONS

DRAWN BY: PMG

DESIGNED BY: PMG

CHECKED BY: SA

PE STAMP: COMMONWEALTH OF MASSACHUSETTS M. SALIM AFSAR ELECTRICAL No. 39083 REGISTERED PROFESSIONAL ENGINEER

PREPARED BY: BETA www.BETA-Inc.com

WB&A Wozny/Barbar & Associates, Inc. CONSULTING ENGINEERS
1076 Washington Street, Hanover, MA 02339, Tel: (781) 826-4144, Fax: (781) 924-5792, www.wbaengineers.com
161 Exchange Street, 3rd Floor, Pawtucket, RI 02860

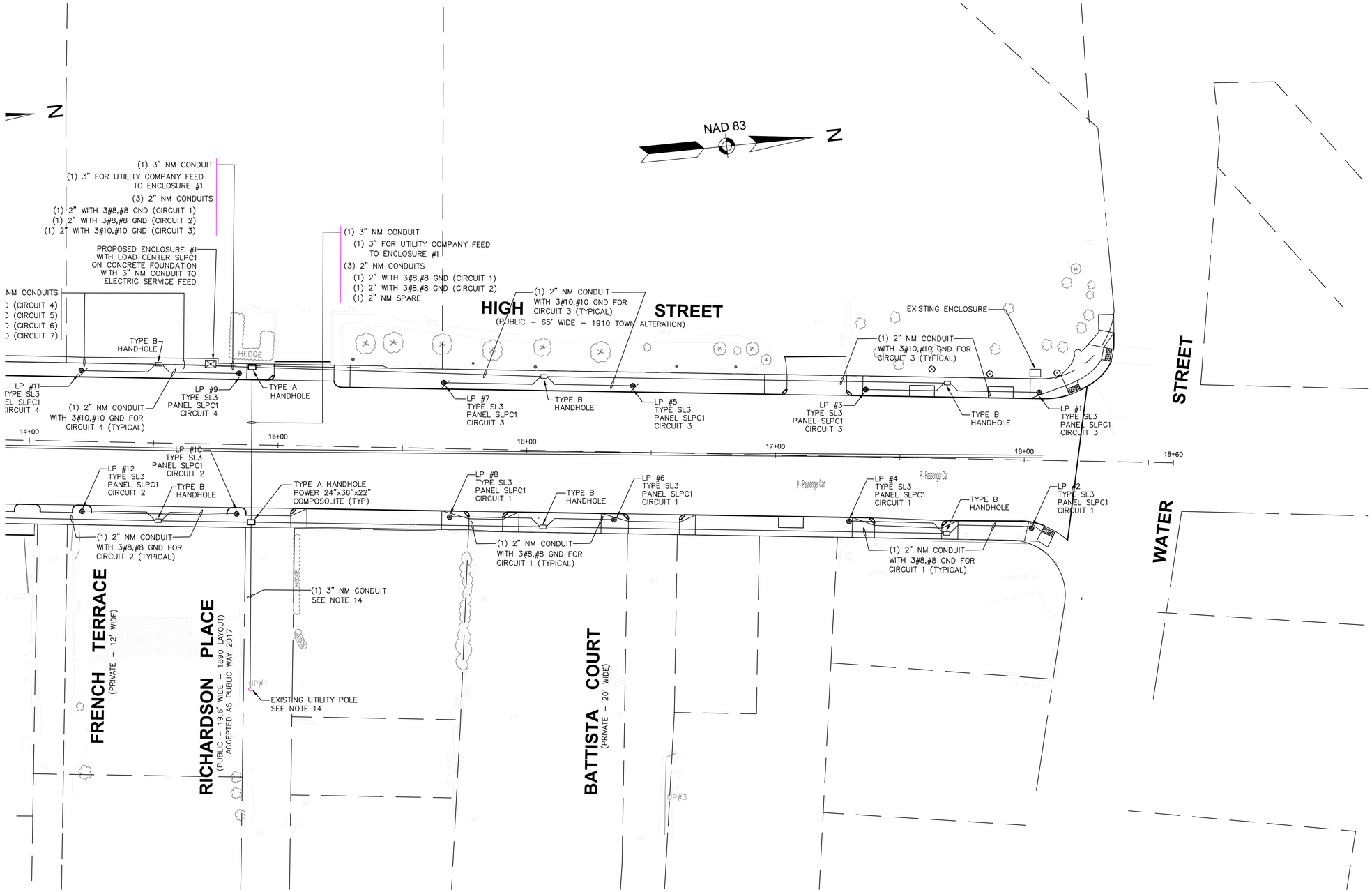
SCALE: 0 20 50 100
SCALE: 1" = 20'

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

HIGH STREET STREETSCAPE
CLINTON, MA

LIGHTING PLAN

BETA JOB NO. 6182
ISSUE DATE JULY 2020
SHEET 3 of 6



NOTES:

1. REFER TO LIGHTING PLAN SHEET 1 OF 6 FOR ADDITIONAL NOTES

NUMBER	DATE	MADE BY	CHECKED BY	DESCRIPTION

REVISIONS

DRAWN BY: PMG

DESIGNED BY: PMG

CHECKED BY: SA

PE STAMP: COMMONWEALTH OF MASSACHUSETTS M. SALIM AFSAR ELECTRICAL No. 39061 REGISTERED PROFESSIONAL ENGINEER

PREPARED BY: BETA www.BETA-Inc.com

WB&A Wozny/Barbar & Associates, Inc. CONSULTING ENGINEERS
1076 Washington Street, Hanover, MA 02339, Tel: (781) 826-4144, Fax: (781) 924-5792
161 Exchange Street, 3rd Floor, Pawtucket, RI 02860
www.wbaengineers.com

SCALE: 0 20 50 100
SCALE: 1" = 20'

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

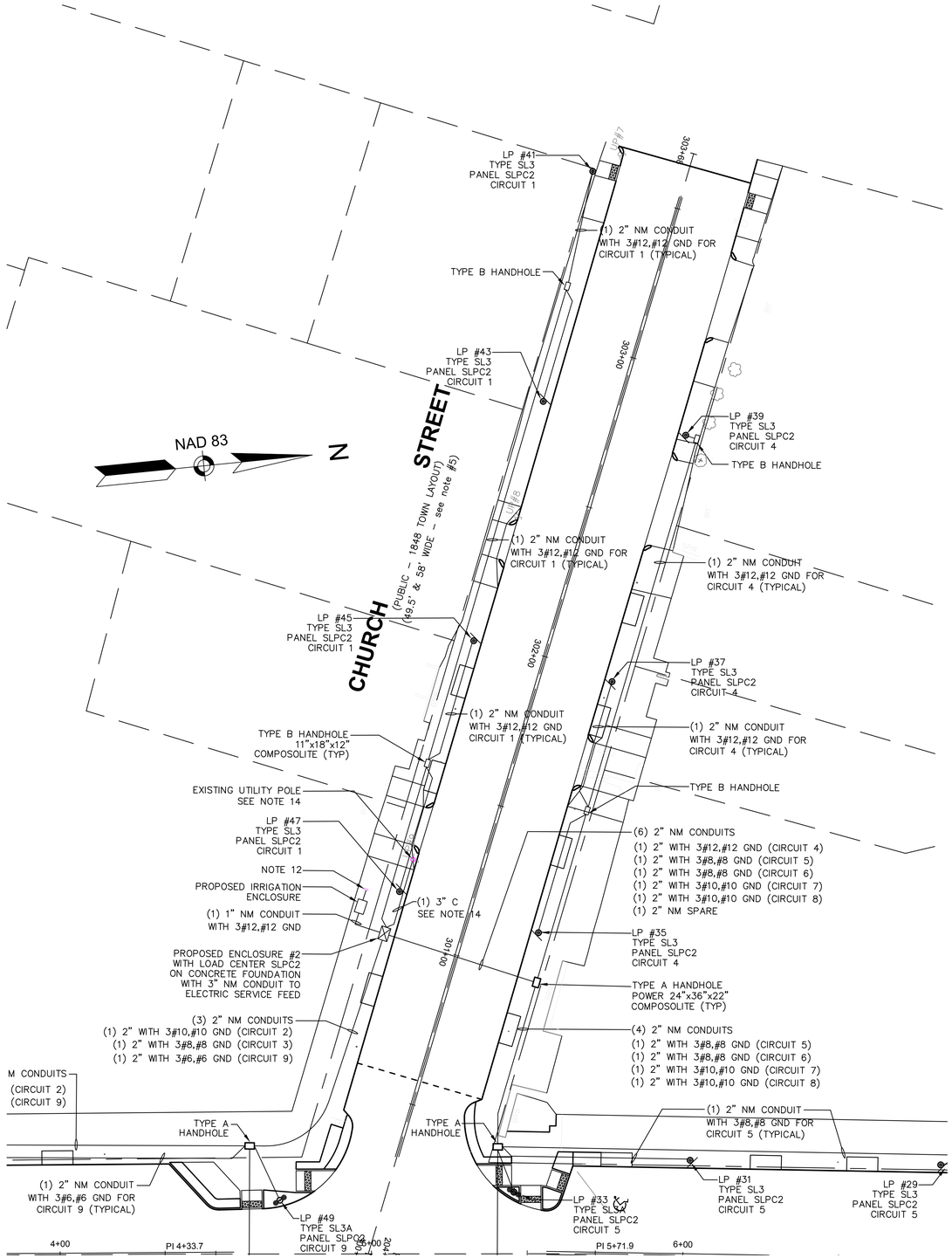
HIGH STREET STREETSCAPE
CLINTON, MA

LIGHTING PLAN

BETA JOB NO. 6182

ISSUE DATE JULY 2020

SHEET 4 of 6



NOTES:

1. REFER TO LIGHTING PLAN SHEET 1 OF 6 FOR ADDITIONAL NOTES

NUMBER	DATE	MADE BY	CHECKED BY	DESCRIPTION

REVISIONS

DRAWN BY: PMG

DESIGNED BY: PMG

CHECKED BY: SA

PE STAMP: COMMONWEALTH OF MASSACHUSETTS M. SALIM AFSAR ELECTRICAL No. 29083 PROFESSIONAL ENGINEER

PREPARED BY: BETA www.BETA-Inc.com

WB&A Worny/Barbar & Associates, Inc. CONSULTING ENGINEERS
1076 Washington Street, Hanover, MA 02339, Tel: (781) 826-4144, Fax: (781) 924-5792, www.wbaengineers.com
161 Exchange Street, 3rd Floor, Pawtucket, RI 02860

SCALE: 0 20 50 100
SCALE: 1" = 20'

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

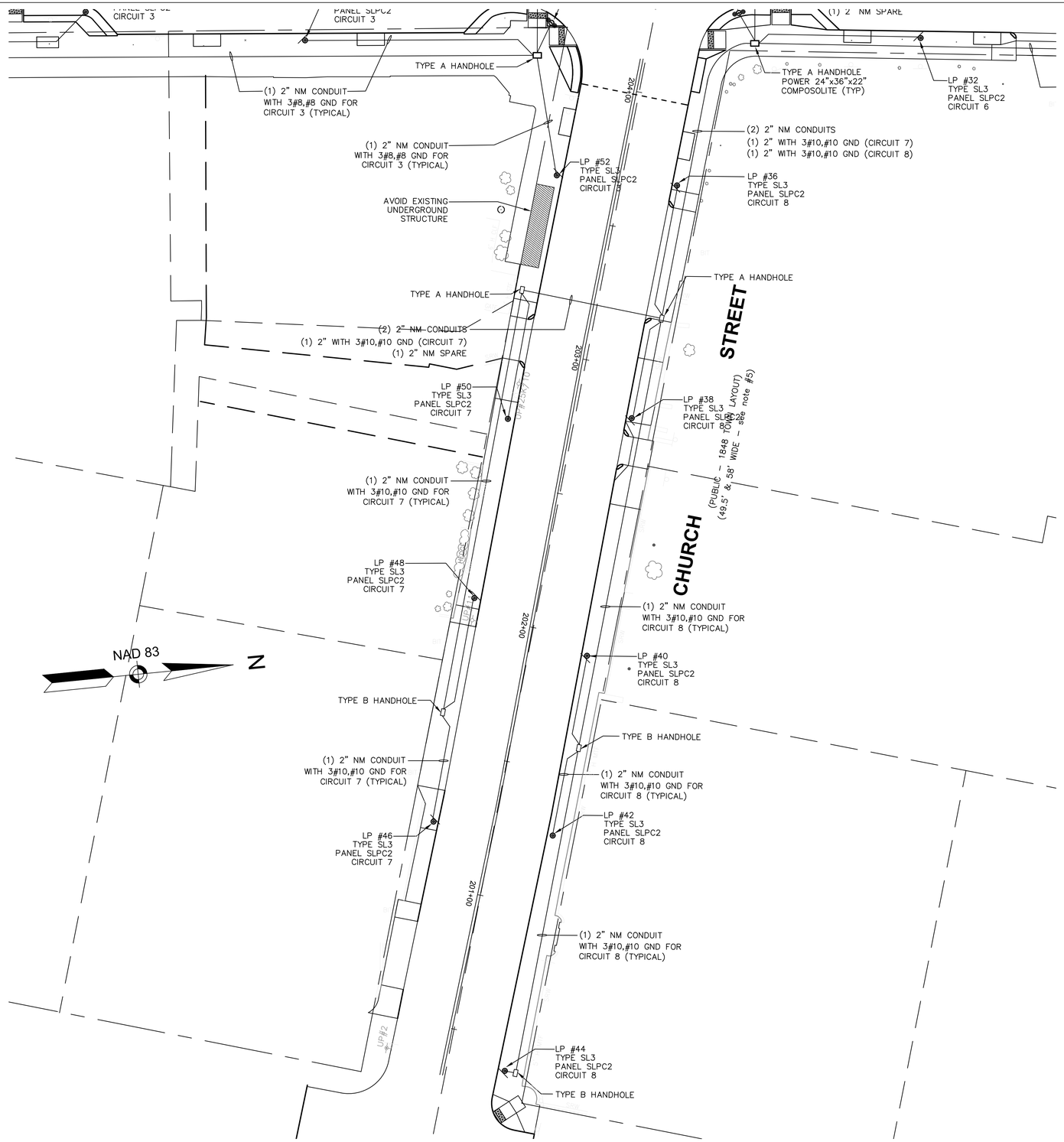
HIGH STREET STREETSCAPE
CLINTON, MA

LIGHTING PLAN

BETA JOB NO. 6182

ISSUE DATE JULY 2020

SHEET 5 of 6



NOTES:

1. REFER TO LIGHTING PLAN SHEET 1 OF 6 FOR ADDITIONAL NOTES

NUMBER	DATE	MADE BY	CHECKED BY	DESCRIPTION

REVISIONS

DRAWN BY: PMG

DESIGNED BY: PMG

CHECKED BY: SA

PE STAMP: M. SALIM AFSAR, ELECTRICAL, No. 39083, COMMONWEALTH OF MASSACHUSETTS, PROFESSIONAL ENGINEER

PREPARED BY: BETA www.BETA-Inc.com

WB&A Wozny/Barbar & Associates, Inc. CONSULTING ENGINEERS
1076 Washington Street, Hanover, MA 02339, Tel: (781) 826-4144, Fax: (781) 924-5792
161 Exchange Street, 3rd Floor, Pawtucket, RI 02860
www.wbaengineers.com

SCALE: 0 20 50 100
SCALE: 1" = 20'

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

HIGH STREET STREETSCAPE
CLINTON, MA

LIGHTING PLAN

BETA JOB NO. 6182

ISSUE DATE JULY 2020

SHEET 6 of 6

LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	MANUFACTURER & CATALOG NUMBER	LAMPS		INPUT		REMARKS
			NUMBER	TYPE	VOLTS	WATTS	
SL3	SINGLE HEAD LIGHTING LED FIXTURE 17' POLE TYPE T3 DISTRIBUTION WITH WEATHER PROOF TAMPER RESISTANT GFCI RECEPTACLE	LUMINAIRE: MPTR-C-140L2100WW G1-3-UNV-DMG-FN10 PH8-RCD-COLTX	1	LED	240	95	POLE: AMT8V-17-BAS24(2)-FH-GFII PS-089-COLTX CONFIRM ACCESSORIES WITH APPROVED SHOP DRAWING
SL3A	DOUBLE HEAD LIGHTING LED FIXTURE 17' POLE TYPE T3 DISTRIBUTION WITH WEATHER PROOF TAMPER RESISTANT GFCI RECEPTACLE	LUMINAIRE: MPTR-C-140L2100WW G1-3-UNV-DMG-FN10 PH8-RCD-COLTX BRACKET: CRF-2-R4-90°-COLTX	2	LED	240	190	POLE: AMT8V-17-BAS24(2)-FH-GFII PS-090-COLTX CONFIRM ACCESSORIES WITH APPROVED SHOP DRAWING
SL5	SINGLE HEAD LIGHTING LED FIXTURE 17' POLE TYPE T5 DISTRIBUTION WITH WEATHER PROOF TAMPER RESISTANT GFCI RECEPTACLE	LUMINAIRE: MPTR-C-140L2100WW G1-5-UNV-DMG-FN10 PH8-RCD-COLTX	1	LED	240	95	POLE: AMT8V-17-BAS24(2)-FH-GFII PS-089-COLTX CONFIRM ACCESSORIES WITH APPROVED SHOP DRAWING

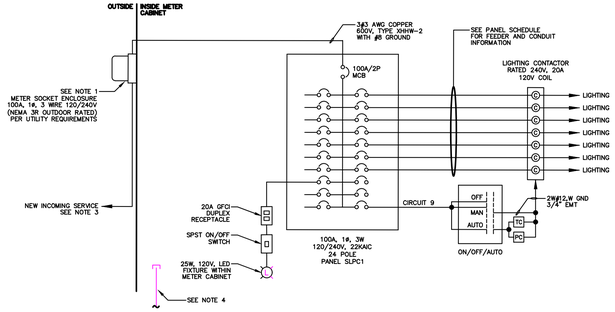
FIXTURE SCHEDULE NOTES:

1. ELECTRICAL CONTRACTOR SHALL CONFIRM FIXTURE, POLE BASE AND COVER COLOR/FINISH WITH SITE/CIVIL ENGINEER AND LANDSCAPE ARCHITECT.
2. CONTRACTOR SHALL CONFIRM QUANTITY AND LOCATION OF FIXTURES WITH SITE/CIVIL ENGINEER AND LANDSCAPE ARCHITECT.
3. CONTRACTOR SHALL FURNISH AND SUPPLY 15A, TAMPER AND WEATHER RESISTANT GFCI RECESSED RECEPTACLE: COOPER #TWRVGF15 WITH WEATHERPROOF, LOCKABLE ALUMINUM COVER – TAYMAC #MX4280S. CONFIRM LOCATION AND QUANTITY OF RECEPTACLES WITH CIVIL ENGINEER AND LANDSCAPE ARCHITECT.

LOAD CENTER PANEL SCHEDULE – SLPC1

PHASE: 1 WIRES: 3 VOLTAGE: 120/240 MAINS: 100A MCB

CIRCUIT	BREAKER FRAME	BREAKER POLES(N-NEUTRAL)	BREAKER TRIP	DESCRIPTION OF LOAD	CABLE	CONDUIT	COMMENTS
M	100	2P	100	MAIN CIRCUIT BREAKER	3W#3 AWG & #1 GND	(1) 3" NM SCH 80	
1	20	2P	20	LIGHTING CIRCUIT #1	3W#8 AWG & #8 GND	(1) 2" NM SCH 80	
2	20	2P	20	LIGHTING CIRCUIT #2	3W#8 AWG & #8 GND	(1) 2" NM SCH 80	
3	20	2P	20	LIGHTING CIRCUIT #3	3W#10 AWG & #10 GND	(1) 2" NM SCH 80	
4	20	2P	20	LIGHTING CIRCUIT #4	3W#10 AWG & #10 GND	(1) 2" NM SCH 80	
5	20	2P	20	FUTURE ALLEWAY LIGHTING CIRCUIT #5	3W#8 AWG & #8 GND	(1) 2" NM SCH 80	
6	20	2P	20	FUTURE ALLEWAY LIGHTING CIRCUIT #6	3W#10 AWG & #10 GND	(1) 2" NM SCH 80	
7	20	2P	20	FUTURE ALLEWAY LIGHTING CIRCUIT #7	3W#10 AWG & #10 GND	(1) 2" NM SCH 80	
8	20	1P	20	RECEPTACLE IN CABINET	2W#12 AWG & #12 GND	(1) 3/4" EMT	
9	20	1P	20	ON/OFF/AUTO CONTROL IN CABINET	2W#12 AWG & #12 GND	(1) 3/4" EMT	
10	20	1P	20	TIMECLOCK IN CABINET	2W#12 AWG & #12 GND	(1) 3/4" EMT	
11							
12							
13							
14							



1 SLPC1 Load Center Riser Detail

Scale: None

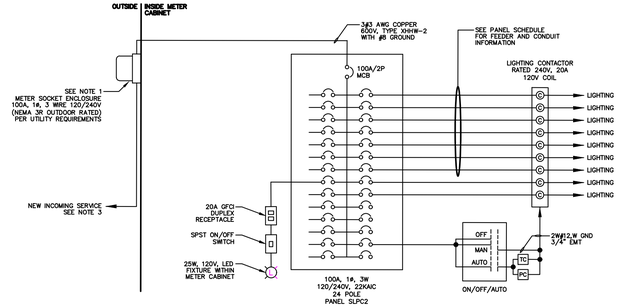
NOTES:

1. CONFIRM AND COORDINATE WITH UTILITY COMAPNY FOR HOT OR COLD SEQUENCING. CONFIRM MEANS OF DISCONNECT WITH UTILITY COMAPNY AND TOWN OF CLINTON. FURNISH AND INSTALL ANY AND ALL ELECTRICAL BREAKERS, DEVICES, WIRE, AND RACEWAY TO COMPLETE INSTALLATION.
2. 365 DAY, PROGRAMMABLE, ASTRONOMICAL TIME CLOCK CONTROLLER/RELAY (TORK OR EQUAL) WITH MOMENTARY OVERRIDE SWITCH. FURNISH AND INSTALL REMOTE PHOTOCELL. CONFIRM MOUNTING AND LOCATION OF PHOTOCELL WITH ENGINEER AND TOWN OF CLINTON. CONTRACTOR SHALL CONFIRM AND COORDINATE PROGRAMMING OF TIMECLOCK/CONTROLLER WITH TOWN OF CLINTON.
3. NEW INCOMING ELECTRICAL SERVICE FROM EXISTING LOCAL UTILITIES. CONTRACTOR SHAL CONFIRM SOURCE OF NEAREST AVAILABLE, EXISTING, 120/240V, 1ø ELECTRICAL SERVICE WITH SPARE CAPACITY AND AMPACITY TO ACCOMMODATE NEW LIGHTING LOAD WITH LOCAL UTILITY COMAPNY. CONTRACTOR SHALL FURNISH AND INSTALL (1) 3" NM RACEWAY WITH 3#3, #8G (COPPER) XHHW-2, 600V, FROM EXISTING SOURCE TO LIGHTING ENCLOSURE. CONFIRM ROUTING OF RACEWAY WITH ENGINEER. UTILITY COMPANY SHALL FURNISH AND INSTALL METER, MANHOLE, HANDHOLE, SWITCHES, AND ANY NECESSARY FUSES/TRANSFORMERS TO COMPLETE INSTALLATION OF NEW LIGHTING SYSTEMS.
4. (1) NEW 1" NM CONDUIT AND PULL STRING FROM NEW ENCLOSURE TO EXISTING TEL/DATA MANHOLE. CONFIRM LOCATION AND ROUTING OF CONDUIT AND MANHOLE WITH SITE/CIVIL ENGINEER, TOWN OF CLINTON FACILITIES, AND SERVICE PROVIDER. RACEWAY IS FOR ETHERNET CABLE NOTED ON IRRIGATION CONSULTANT PLANS.

LOAD CENTER PANEL SCHEDULE – SLPC2

PHASE: 1 WIRES: 3 VOLTAGE: 120/240 MAINS: 100A MCB

CIRCUIT	BREAKER FRAME	BREAKER POLES(N-NEUTRAL)	BREAKER TRIP	DESCRIPTION OF LOAD	CABLE	CONDUIT	COMMENTS
M	100	2P	100	MAIN CIRCUIT BREAKER	3W#3 AWG & #1 GND	(1) 3" NM SCH 80	
1	20	2P	20	LIGHTING CIRCUIT #1	3W#12 AWG & #12 GND	(1) 2" NM SCH 80	
2	20	2P	20	LIGHTING CIRCUIT #2	3W#10 AWG & #10 GND	(1) 2" NM SCH 80	
3	20	2P	20	LIGHTING CIRCUIT #3	3W#8 AWG & #8 GND	(1) 2" NM SCH 80	
4	20	2P	20	LIGHTING CIRCUIT #4	3W#12 AWG & #12 GND	(1) 2" NM SCH 80	
5	20	2P	20	LIGHTING CIRCUIT #5	3W#8 AWG & #8 GND	(1) 2" NM SCH 80	
6	20	2P	20	LIGHTING CIRCUIT #6	3W#8 AWG & #8 GND	(1) 2" NM SCH 80	
7	20	2P	20	LIGHTING CIRCUIT #7	3W#10 AWG & #10 GND	(1) 2" NM SCH 80	
8	20	2P	20	LIGHTING CIRCUIT #8	3W#10 AWG & #10 GND	(1) 2" NM SCH 80	
9	20	2P	20	LIGHTING CIRCUIT #9	3W#6 AWG & #6 GND	(1) 2" NM SCH 80	
10	20	1P	20	IRRIGATION CONTROLER #10	2W#12 AWG & #12 GND	(1) 1" NM SCH 80	
11	20	1P	20	RECEPTACLE IN CABINET	2W#12 AWG & #12 GND	(1) 3/4" EMT	
12	20	1P	20	ON/OFF/AUTO CONTROL IN CABINET	2W#12 AWG & #12 GND	(1) 3/4" EMT	
13	20	1P	20	TIMECLOCK IN CABINET	2W#12 AWG & #12 GND	(1) 3/4" EMT	
14							

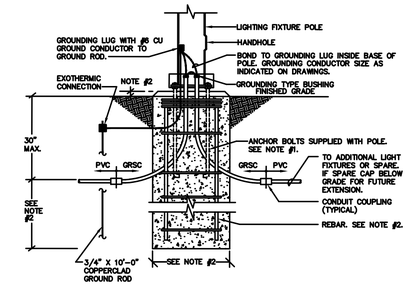


2 SLPC2 Load Center Riser Detail

Scale: None

NOTES:

1. CONFIRM AND COORDINATE WITH UTILITY COMAPNY FOR HOT OR COLD SEQUENCING. CONFIRM MEANS OF DISCONNECT WITH UTILITY COMAPNY AND TOWN OF CLINTON. FURNISH AND INSTALL ANY AND ALL ELECTRICAL BREAKERS, DEVICES, WIRE, AND RACEWAY TO COMPLETE INSTALLATION.
2. 365 DAY, PROGRAMMABLE, ASTRONOMICAL TIME CLOCK CONTROLLER/RELAY (TORK OR EQUAL) WITH MOMENTARY OVERRIDE SWITCH. FURNISH AND INSTALL REMOTE PHOTOCELL. CONFIRM MOUNTING AND LOCATION OF PHOTOCELL WITH ENGINEER AND TOWN OF CLINTON. CONTRACTOR SHALL CONFIRM AND COORDINATE PROGRAMMING OF TIMECLOCK/CONTROLLER WITH TOWN OF CLINTON.
3. NEW INCOMING ELECTRICAL SERVICE FROM EXISTING LOCAL UTILITIES. CONTRACTOR SHAL CONFIRM SOURCE OF NEAREST AVAILABLE, EXISTING, 120/240V, 1ø ELECTRICAL SERVICE WITH SPARE CAPACITY AND AMPACITY TO ACCOMMODATE NEW LIGHTING LOAD WITH LOCAL UTILITY COMAPNY. CONTRACTOR SHALL FURNISH AND INSTALL (1) 3" NM RACEWAY WITH 3#3, #8G (COPPER) XHHW-2, 600V, FROM EXISTING SOURCE TO LIGHTING ENCLOSURE. CONFIRM ROUTING OF RACEWAY WITH ENGINEER. UTILITY COMPANY SHALL FURNISH AND INSTALL METER, MANHOLE, HANDHOLE, SWITCHES, AND ANY NECESSARY FUSES/TRANSFORMERS TO COMPLETE INSTALLATION OF NEW LIGHTING SYSTEMS.

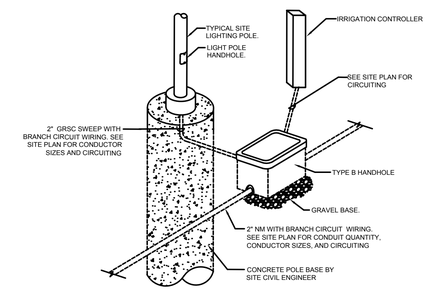


NOTES:

1. BOLT PATTERN SHOWN IS TYPICAL AND NOT FOR CONSTRUCTION. CONTRACTOR SHALL PROVIDE BOLT PATTERN DETAILS BASED ON SELECTED MANUFACTURER.
2. REFER TO SHOP DRAWINGS FOR POLE BASE HEIGHT, SIZE AND REBAR REQUIREMENTS.
3. COORDINATE EXACT ANCHOR BOLT REQUIREMENTS WITH LIGHTING MANUFACTURER AND SHOP DRAWINGS.

3 Site Lighting Pole Base Detail

Scale: None

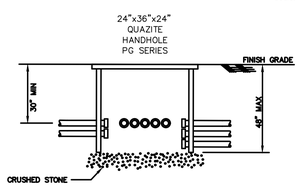


NOTES:

1. INSTALLATION TYPICAL FOR LANDSCAPED OR PAVED SIDEWALK AREAS. HANDHOLE SHALL NOT BE LOCATED IN TRAFFIC AREAS. COORDINATE COVER AND FRAME COLOR OF HANDHOLE WITH ARCHITECT.
2. PROVIDE IN-LINE, WATERPROOF FUSE HOLDER-BUSS "TRON", TYPE HEB OR HEX, AS REQUIRED.
3. REFER TO TYPICAL LIGHT POLE BASE DETAIL.

4 Lighting/Irrigation Pedestal Handhole Detail

Scale: None

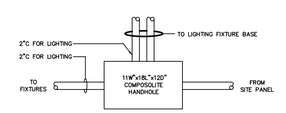


NOTES:

1. CONTRACTOR SHALL CONFIRM LOCATION AND INSTALLATION OF NEW HANDHOLE WITH ENGINEER.

5 Type A Handhole

Scale: None



NOTES:

1. CONTRACTOR SHALL CONFIRM LOCATION AND INSTALLATION OF NEW HANDHOLE WITH ENGINEER.

6 Type B Handhole

Scale: None

NUMBER	DATE	MADE BY	CHECKED BY	DESCRIPTION

REVISIONS

DRAWN BY: PMG

DESIGNED BY: PMG

CHECKED BY: SA

PE STAMP: COMMONWEALTH OF MASSACHUSETTS M. SALIM AFSAR ELECTRICAL No. 30083

PREPARED BY: BETA www.BETA-Inc.com

WB&A Wozny/Barbar & Associates, Inc. CONSULTING ENGINEERS
1076 Washington Street Hanover, MA 02339 Tel: (781) 826-4144 Fax: (781) 924-5792 www.wbaengineers.com
161 Exchange Street 3rd Floor Pawtucket, RI 02860

SCALE: 0 20 50 100 SCALE: 1" = 20'

UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

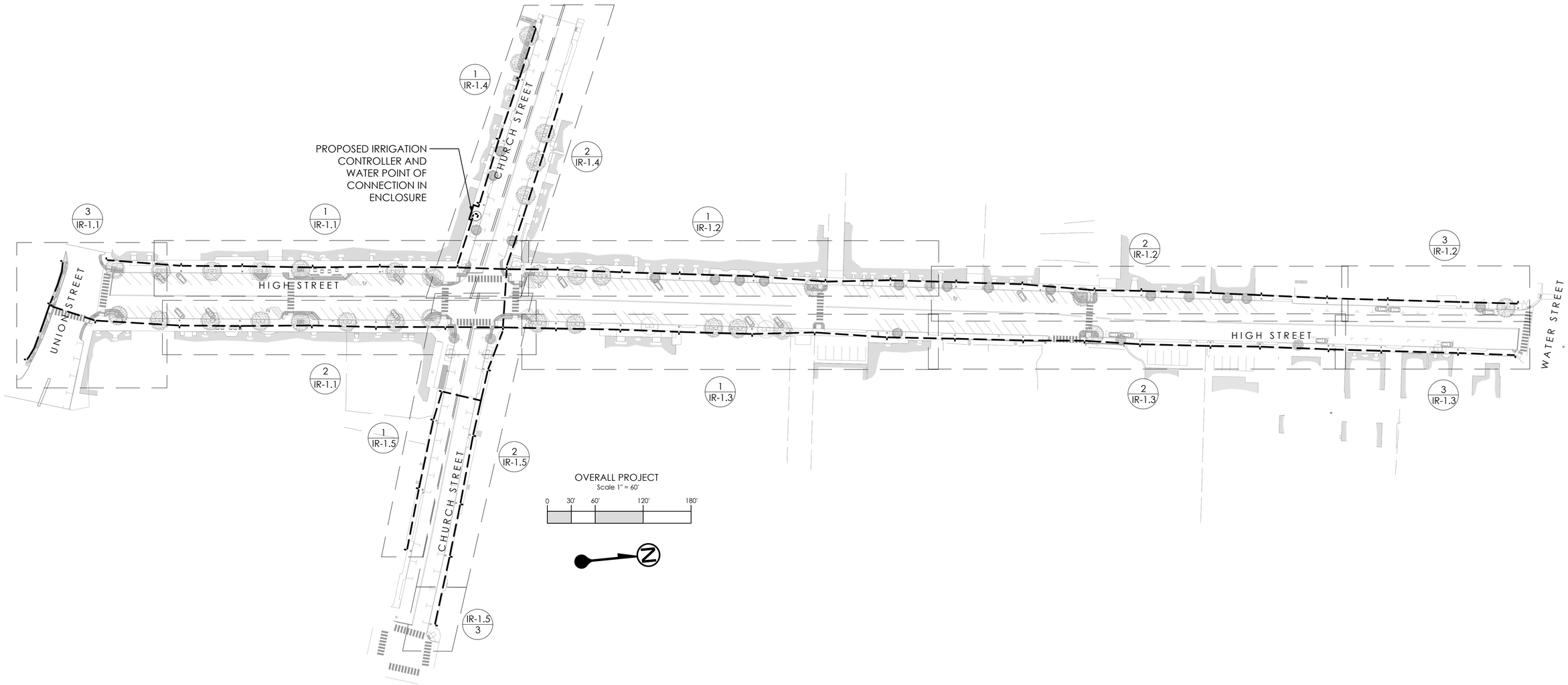
HIGH STREET STREETSCAPE
CLINTON, MA

DETAIL SHEET

BETA JOB NO. 6182

ISSUE DATE JULY 2020

SHEET - of -



IRRIGATION NOTES

1. SEE IRRIGATION DETAILS AND SPECIFICATIONS FOR ADDITIONAL REQUIRED INFORMATION. SEE PLANS FOR ADDITIONAL INFORMATION.
2. COORDINATE FINAL LOCATION OF IRRIGATION AND POLYMER CONCRETE VALVE BOXES WITH THE ENGINEER.
3. ALL PIPE AND VALVE LOCATIONS ARE DIAGRAMMATIC FOR CLARITY: CONTRACTOR SHALL FIELD VERIFY.
4. SPECIFIED VALVE BOX LOCATIONS AND COLORS SHALL BE APPROVED BY THE ENGINEER.
5. IRRIGATION SYSTEM IS DESIGNED FOR DOMESTIC SUPPLY AT LESS THAN 1GPM. SYSTEM TO PRODUCE 60-PSI DYNAMIC PRESSURE MINIMUM. CONTRACTOR SHALL TEST DYNAMIC PRESSURE BEFORE STARTING WORK AND REPORT ANY DEVIATION TO THE OWNER'S REPRESENTATIVE BEFORE CONTINUING.
6. INSTALL NEW CONTROLLER IN ENCLOSURE AS LOCATED APPROXIMATELY ON PLANS, AS DIRECTED BY OWNER'S REPRESENTATIVE. HARD WIRE TO 120 VOLT, DEDICATED 20-AMP CIRCUIT, POWER SUPPLY USING LICENSED ELECTRICIAN.
7. COORDINATE WITH ELECTRICAL CONTRACTOR TO PROVIDE MOCKUP OF PROPOSED LIGHT POLE IRRIGATION SYSTEM.
8. GROUND IRRIGATION CONTROLLER TO EARTH. COORDINATE WITH SITE ELECTRICAL CONTRACTOR AND VERIFY UNDERGROUND UTILITIES.
9. COORDINATE LOCATION OF ALL EXISTING AND FUTURE UTILITIES ON SITE, CONTACT PROPER AUTHORITIES AND UTILITY COMPANIES BEFORE THE START OF WORK.
10. FLUSH ALL LATERAL LINES BEFORE INSTALLING DRIP IRRIGATION.
11. CONTRACTOR MUST SUBMIT PRODUCT CUT SHEETS AS PER THE WRITTEN SPECIFICATIONS TO THE ENGINEER FOR APPROVAL PRIOR TO ORDERING MATERIAL AND BEGINNING WORK.
12. MATERIAL SUBSTITUTIONS WHICH VARY FROM THE SPECIFIED PRODUCTS MUST BE SUBMITTED TO THE ENGINEER FOR APPROVAL AS PART OF THE SUBMITTAL PROCESS.
13. ONCE APPROVED SUBMITTALS HAVE BEEN RETURNED TO THE CONTRACTOR, WORK MAY BEGIN. OWNER'S REPRESENTATIVE MUST BE NOTIFIED 7 DAYS IN ADVANCE OF THE START OF WORK TO COORDINATE ON-SITE SUPERVISION AND ADMINISTRATION.

NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: TL
DESIGNED BY: TL
CHECKED BY: MI

REGISTERED PROFESSIONAL
COMMONWEALTH OF MASSACHUSETTS
MICHAEL IGO
CIVIL
No. 46486
REGISTERED PROFESSIONAL ENGINEER

PREPARED BY
BETA
www.BETA-Inc.com

SUBCONSULTANT
Aqueous
AQUEOUS CONSULTANTS, LLC
2 Dundee Park Drive, Suite 301B
Andover, MA 01810
(978) 470-1695

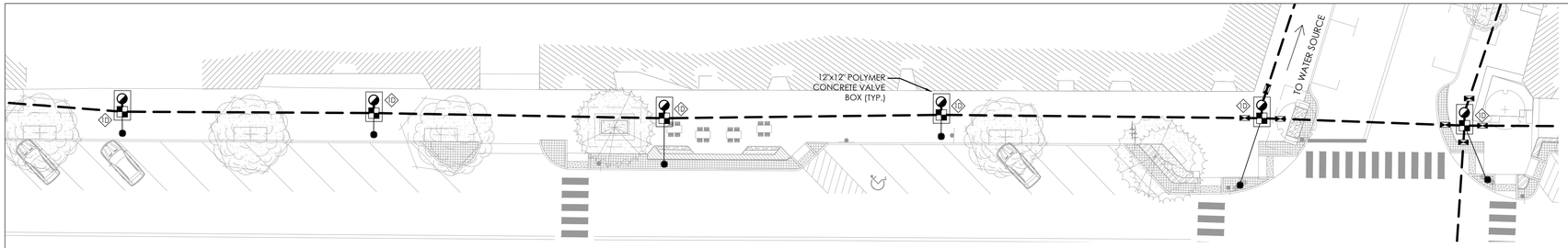
SCALE
SCALE IN FEET: 1"=20'
20 0 20 40
UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE
HIGH STREET STREETSCAPE
CLINTON, MA

OVERALL IRRIGATION LAYOUT PLAN

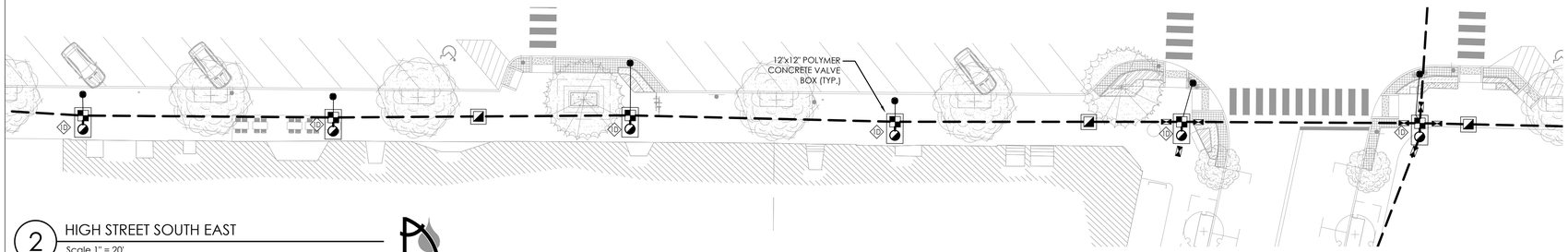
BETA JOB NO. 6182
ISSUE DATE JULY 2020
SHEET NO. IR-1.0

7/15/2020 9:38 AM C:\USERS\TAMORA\DESKTOP\FINISHED PROJECTS\IRRIGATION DESIGN ALTERNATE 1 - STANDARD\IRRIGATION DESIGN ALTERNATE 2.DWG (MONOCHROME.STB)



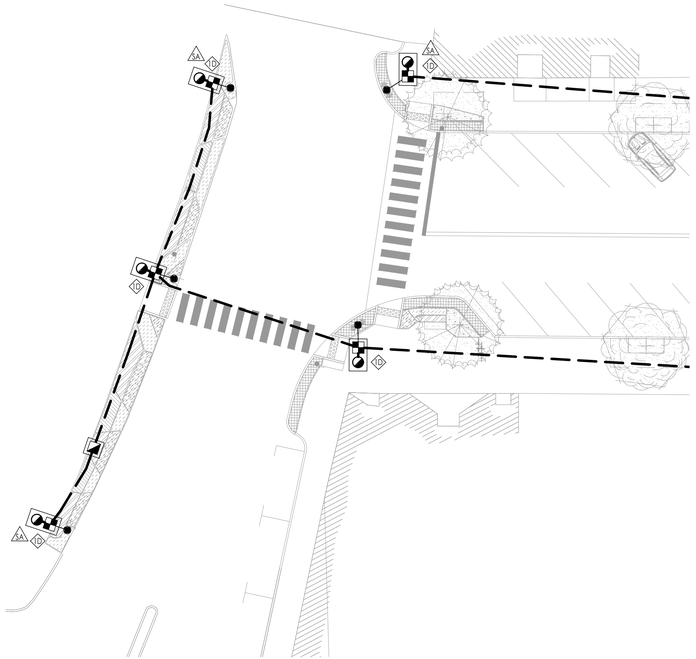
1 HIGH STREET SOUTH WEST
Scale 1" = 20'

0 10' 20' 40' 60'



2 HIGH STREET SOUTH EAST
Scale 1" = 20'

0 10' 20' 40' 60'



3 UNION STREET
Scale 1" = 20'

0 10' 20' 40' 60'

IRRIGATION NOTES

1. SEE IRRIGATION DETAILS AND SPECIFICATIONS FOR ADDITIONAL REQUIRED INFORMATION. SEE PLANS FOR ADDITIONAL INFORMATION.
2. COORDINATE FINAL LOCATION OF IRRIGATION AND POLYMER CONCRETE VALVE BOXES WITH THE ENGINEER.
3. ALL PIPE AND VALVE LOCATIONS ARE DIAGRAMMATIC FOR CLARITY: CONTRACTOR SHALL FIELD VERIFY.
4. SPECIFIED VALVE BOX LOCATIONS AND COLORS SHALL BE APPROVED BY THE ENGINEER.
5. IRRIGATION SYSTEM IS DESIGNED FOR DOMESTIC SUPPLY AT LESS THAN 1GPM. SYSTEM TO PRODUCE 60-PSI DYNAMIC PRESSURE MINIMUM. CONTRACTOR SHALL TEST DYNAMIC PRESSURE BEFORE STARTING WORK AND REPORT ANY DEVIATION TO THE OWNER'S REPRESENTATIVE BEFORE CONTINUING.
6. INSTALL NEW CONTROLLER IN ENCLOSURE AS LOCATED APPROXIMATELY ON PLANS, AS DIRECTED BY OWNER'S REPRESENTATIVE. HARD WIRE TO 120 VOLT, DEDICATED 20-AMP CIRCUIT, POWER SUPPLY USING LICENSED ELECTRICIAN.
7. COORDINATE WITH ELECTRICAL CONTRACTOR TO PROVIDE MOCKUP OF PROPOSED LIGHT POLE IRRIGATION SYSTEM.
8. GROUND IRRIGATION CONTROLLER TO EARTH. COORDINATE WITH SITE ELECTRICAL CONTRACTOR AND VERIFY UNDERGROUND UTILITIES.
9. COORDINATE LOCATION OF ALL EXISTING AND FUTURE UTILITIES ON SITE, CONTACT PROPER AUTHORITIES AND UTILITY COMPANIES BEFORE THE START OF WORK.
10. FLUSH ALL LATERAL LINES BEFORE INSTALLING DRIP IRRIGATION.
11. CONTRACTOR MUST SUBMIT PRODUCT CUT SHEETS AS PER THE WRITTEN SPECIFICATIONS TO THE ENGINEER FOR APPROVAL PRIOR TO ORDERING MATERIAL AND BEGINNING WORK.
12. MATERIAL SUBSTITUTIONS WHICH VARY FROM THE SPECIFIED PRODUCTS MUST BE SUBMITTED TO THE ENGINEER FOR APPROVAL AS PART OF THE SUBMITTAL PROCESS.
13. ONCE APPROVED SUBMITTALS HAVE BEEN RETURNED TO THE CONTRACTOR, WORK MAY BEGIN. OWNER'S REPRESENTATIVE MUST BE NOTIFIED 7 DAYS IN ADVANCE OF THE START OF WORK TO COORDINATE ON-SITE SUPERVISION AND ADMINISTRATION.

IRRIGATION MATERIAL LIST

SYMBOL	MANUFACTURER/MODEL	DETAIL # (IR-2.0,2.1)
	1-Inch Drip Control Zone Kit (Filter, PR)	7,10
	Multi-Outlet Emitter with 1/4-Inch Drip Tubing	
	Light Pole with Hanging Basket	12
	HDPE Ball Valve in Polymer Concrete Valve Box	8
	Quick Coupling Valve in Polymer Concrete Valve Box	6
1D	1-Station Decoder	2,7
IC	Baseline BaseStation 3200 with Cellular Modem	1,5
WM	Water Meter	1
BF	RPZ Backflow Preventer	
MV	1-Inch Master Valves (N.O. & N.C.)	
FS	1-Inch Flow Sensor and Pressure Sensor	
	Irrigation Lateral Line: 1-Inch Fused HDPE	9
	Irrigation Mainline: 1-Inch Fused HDPE and Valve Wire Conduit	
	Pipe Sleeve: PVC SCH 80 Solvent Weld Through Light Pole and Base	

7/15/2020 9:38 AM C:\USERS\TAMORA\DESKTOP\FINISHED PROJECTS\IRRIGATION DESIGN ALTERNATE 1 - STANDARD\IRRIGATION DESIGN ALTERNATE 2.DWG (MONOCHROME.STB)

NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: TL
DESIGNED BY: TL
CHECKED BY: MI

REGISTERED PROFESSIONAL: COMMONWEALTH OF MASSACHUSETTS MICHAEL IGO CIVIL No. 46486 REGISTERED PROFESSIONAL ENGINEER

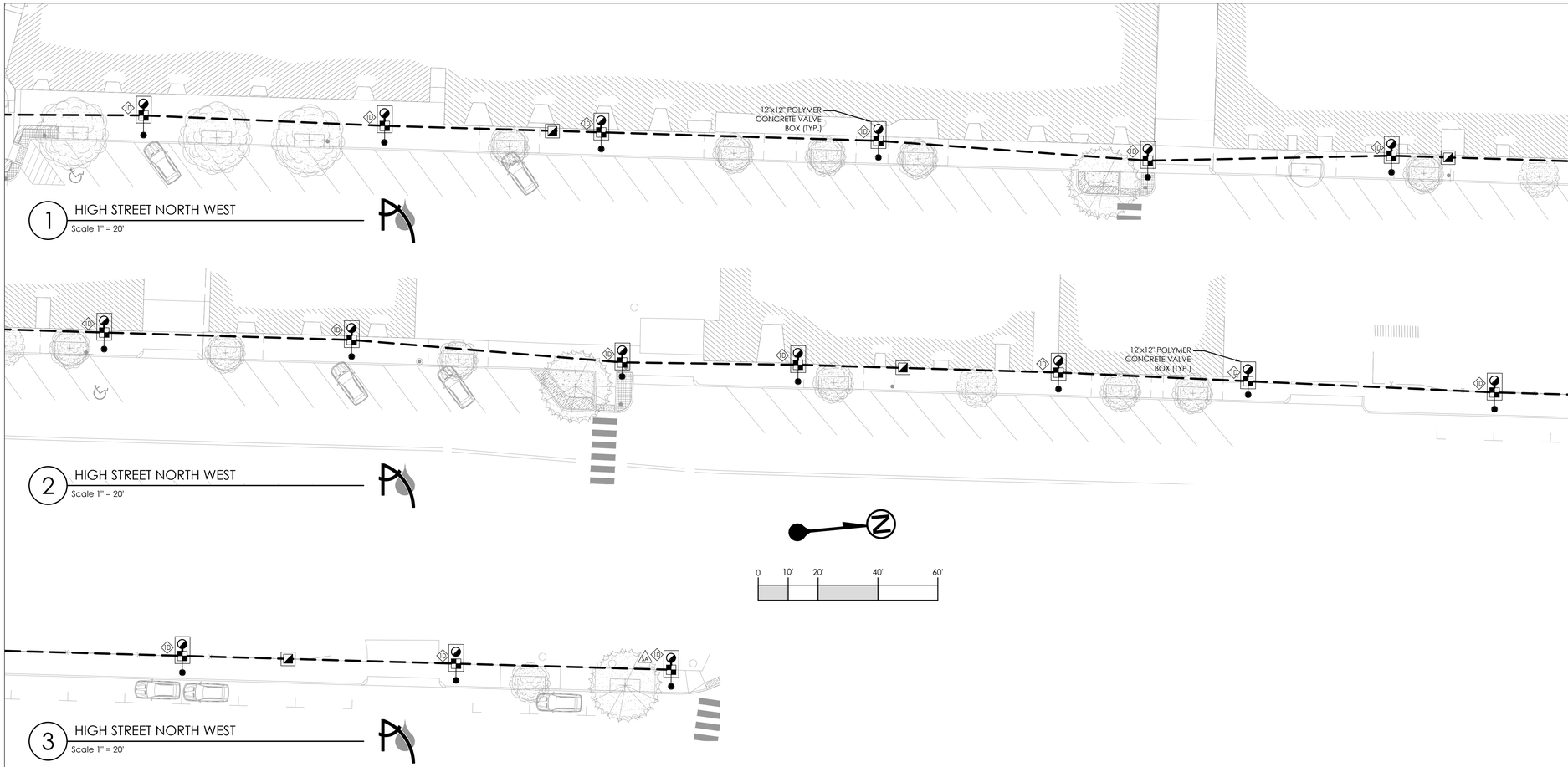
PREPARED BY: BETA www.BETA-Inc.com

SUBCONSULTANT: Aqueous
AQUEOUS CONSULTANTS, LLC
2 Dundee Park Drive, Suite 301B
Andover, MA 01810
(978) 470-1695

SCALE: SCALE IN FEET: 1"=20' (20 0 20 40)
UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE: HIGH STREET STREETSCAPE
CLINTON, MA
IRRIGATION LAYOUT PLAN

BETA JOB NO. 6182
ISSUE DATE JULY 2020
SHEET NO. IR-1.1



IRRIGATION NOTES

1. SEE IRRIGATION DETAILS AND SPECIFICATIONS FOR ADDITIONAL REQUIRED INFORMATION. SEE PLANS FOR ADDITIONAL INFORMATION.
2. COORDINATE FINAL LOCATION OF IRRIGATION AND POLYMER CONCRETE VALVE BOXES WITH THE ENGINEER.
3. ALL PIPE AND VALVE LOCATIONS ARE DIAGRAMMATIC FOR CLARITY: CONTRACTOR SHALL FIELD VERIFY.
4. SPECIFIED VALVE BOX LOCATIONS AND COLORS SHALL BE APPROVED BY THE ENGINEER.
5. IRRIGATION SYSTEM IS DESIGNED FOR DOMESTIC SUPPLY AT LESS THAN 1GPM. SYSTEM TO PRODUCE 60-PSI DYNAMIC PRESSURE MINIMUM. CONTRACTOR SHALL TEST DYNAMIC PRESSURE BEFORE STARTING WORK AND REPORT ANY DEVIATION TO THE OWNER'S REPRESENTATIVE BEFORE CONTINUING.
6. INSTALL NEW CONTROLLER IN ENCLOSURE AS LOCATED APPROXIMATELY ON PLANS, AS DIRECTED BY OWNER'S REPRESENTATIVE. HARD WIRE TO 120 VOLT, DEDICATED 20-AMP CIRCUIT, POWER SUPPLY USING LICENSED ELECTRICIAN.
7. COORDINATE WITH ELECTRICAL CONTRACTOR TO PROVIDE MOCKUP OF PROPOSED LIGHT POLE IRRIGATION SYSTEM.
8. GROUND IRRIGATION CONTROLLER TO EARTH. COORDINATE WITH SITE ELECTRICAL CONTRACTOR AND VERIFY UNDERGROUND UTILITIES.
9. COORDINATE LOCATION OF ALL EXISTING AND FUTURE UTILITIES ON SITE, CONTACT PROPER AUTHORITIES AND UTILITY COMPANIES BEFORE THE START OF WORK.
10. FLUSH ALL LATERAL LINES BEFORE INSTALLING DRIP IRRIGATION.
11. CONTRACTOR MUST SUBMIT PRODUCT CUT SHEETS AS PER THE WRITTEN SPECIFICATIONS TO THE ENGINEER FOR APPROVAL PRIOR TO ORDERING MATERIAL AND BEGINNING WORK.
12. MATERIAL SUBSTITUTIONS WHICH VARY FROM THE SPECIFIED PRODUCTS MUST BE SUBMITTED TO THE ENGINEER FOR APPROVAL AS PART OF THE SUBMITTAL PROCESS.
13. ONCE APPROVED SUBMITTALS HAVE BEEN RETURNED TO THE CONTRACTOR, WORK MAY BEGIN. OWNER'S REPRESENTATIVE MUST BE NOTIFIED 7 DAYS IN ADVANCE OF THE START OF WORK TO COORDINATE ON-SITE SUPERVISION AND ADMINISTRATION.

IRRIGATION MATERIAL LIST

SYMBOL	MANUFACTURER/MODEL	DETAIL # (IR-2.0,2.1)
	1-Inch Drip Control Zone Kit (Filter, PR)	7,10
	Multi-Outlet Emitter with 1/4-Inch Drip Tubing	
	Light Pole with Hanging Basket	12
	HDPE Ball Valve in Polymer Concrete Valve Box	8
	Quick Coupling Valve in Polymer Concrete Valve Box	6
D	1-Station Decoder	2,7
IC	Baseline BaseStation 3200 with Cellular Modem	1,5
WM	Water Meter	1
BF	RPZ Backflow Preventer	
MV	1-Inch Master Valves (N.O. & N.C.)	
FS	1-Inch Flow Sensor and Pressure Sensor	
	Irrigation Lateral Line: 1-Inch Fused HDPE	9
	Irrigation Mainline: 1-Inch Fused HDPE and Valve Wire Conduit	
	Pipe Sleeve: PVC SCH 80 Solvent Weld Through Light Pole and Base	

NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: TL
DESIGNED BY: TL
CHECKED BY: MI

REGISTERED PROFESSIONAL: COMMONWEALTH OF MASSACHUSETTS — MICHAEL IGO, CIVIL, No. 46486, REGISTERED PROFESSIONAL ENGINEER

PREPARED BY: BETA — www.BETA-Inc.com

SUBCONSULTANT: Aqueous
AQUEOUS CONSULTANTS, LLC
2 Dundee Park Drive, Suite 301B
Andover, MA 01810
(978) 470-1695

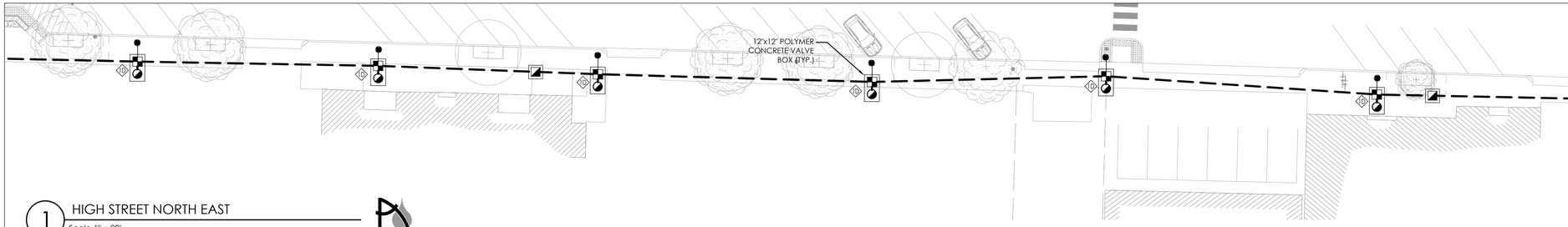
SCALE: SCALE IN FEET: 1"=20' (20 0 20 40)
UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE: **HIGH STREET STREETSCAPE**
CLINTON, MA

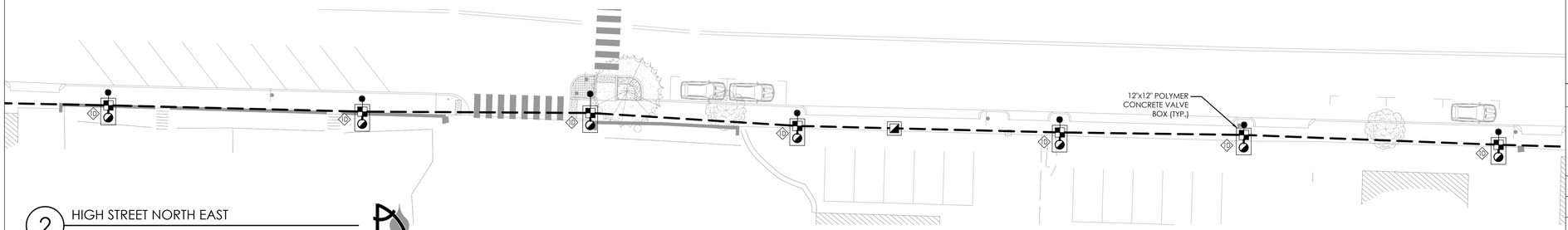
IRRIGATION LAYOUT PLAN

BETA JOB NO. 6182
ISSUE DATE JULY 2020
SHEET NO. IR-1.2

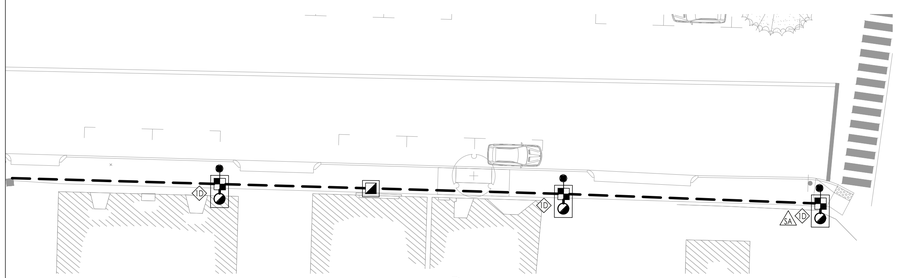
7/15/2020 9:38 AM C:\USERS\TAMORA\DESKTOP\FINISHED PROJECTS\IRRIGATION DESIGN ALTERNATE 1 - STANDARD\IRRIGATION DESIGN ALTERNATE 2.DWG (MONOCHROME.STB)



1 HIGH STREET NORTH EAST
Scale 1" = 20'



2 HIGH STREET NORTH EAST
Scale 1" = 20'



3 HIGH STREET NORTH EAST
Scale 1" = 20'

0 10' 20' 40' 60'

IRRIGATION NOTES

1. SEE IRRIGATION DETAILS AND SPECIFICATIONS FOR ADDITIONAL REQUIRED INFORMATION. SEE PLANS FOR ADDITIONAL INFORMATION.
2. COORDINATE FINAL LOCATION OF IRRIGATION AND POLYMER CONCRETE VALVE BOXES WITH THE ENGINEER.
3. ALL PIPE AND VALVE LOCATIONS ARE DIAGRAMMATIC FOR CLARITY: CONTRACTOR SHALL FIELD VERIFY.
4. SPECIFIED VALVE BOX LOCATIONS AND COLORS SHALL BE APPROVED BY THE ENGINEER.
5. IRRIGATION SYSTEM IS DESIGNED FOR DOMESTIC SUPPLY AT LESS THAN 1GPM. SYSTEM TO PRODUCE 60-PSI DYNAMIC PRESSURE MINIMUM. CONTRACTOR SHALL TEST DYNAMIC PRESSURE BEFORE STARTING WORK AND REPORT ANY DEVIATION TO THE OWNER'S REPRESENTATIVE BEFORE CONTINUING.
6. INSTALL NEW CONTROLLER IN ENCLOSURE AS LOCATED APPROXIMATELY ON PLANS, AS DIRECTED BY OWNER'S REPRESENTATIVE. HARD WIRE TO 120 VOLT, DEDICATED 20-AMP CIRCUIT, POWER SUPPLY USING LICENSED ELECTRICIAN.
7. COORDINATE WITH ELECTRICAL CONTRACTOR TO PROVIDE MOCKUP OF PROPOSED LIGHT POLE IRRIGATION SYSTEM.
8. GROUND IRRIGATION CONTROLLER TO EARTH. COORDINATE WITH SITE ELECTRICAL CONTRACTOR AND VERIFY UNDERGROUND UTILITIES.
9. COORDINATE LOCATION OF ALL EXISTING AND FUTURE UTILITIES ON SITE, CONTACT PROPER AUTHORITIES AND UTILITY COMPANIES BEFORE THE START OF WORK.
10. FLUSH ALL LATERAL LINES BEFORE INSTALLING DRIP IRRIGATION.
11. CONTRACTOR MUST SUBMIT PRODUCT CUT SHEETS AS PER THE WRITTEN SPECIFICATIONS TO THE ENGINEER FOR APPROVAL PRIOR TO ORDERING MATERIAL AND BEGINNING WORK.
12. MATERIAL SUBSTITUTIONS WHICH VARY FROM THE SPECIFIED PRODUCTS MUST BE SUBMITTED TO THE ENGINEER FOR APPROVAL AS PART OF THE SUBMITTAL PROCESS.
13. ONCE APPROVED SUBMITTALS HAVE BEEN RETURNED TO THE CONTRACTOR, WORK MAY BEGIN. OWNER'S REPRESENTATIVE MUST BE NOTIFIED 7 DAYS IN ADVANCE OF THE START OF WORK TO COORDINATE ON-SITE SUPERVISION AND ADMINISTRATION.

IRRIGATION MATERIAL LIST

SYMBOL	MANUFACTURER/MODEL	DETAIL # (IR-2.0,2.1)
	1-Inch Drip Control Zone Kit (Filter, PR)	7,10
	Multi-Outlet Emitter with 1/4-Inch Drip Tubing	
	Light Pole with Hanging Basket	12
	HDPE Ball Valve in Polymer Concrete Valve Box	8
	Quick Coupling Valve in Polymer Concrete Valve Box	6
1D	1-Station Decoder	2,7
IC	Baseline BaseStation 3200 with Cellular Modem	1,5
WM	Water Meter	1
BF	RPZ Backflow Preventer	
MV	1-Inch Master Valves (N.O. & N.C.)	
FS	1-Inch Flow Sensor and Pressure Sensor	
	Irrigation Lateral Line: 1-Inch Fused HDPE	9
	Irrigation Mainline: 1-Inch Fused HDPE and Valve Wire Conduit	
	Pipe Sleeve: PVC SCH 80 Solvent Weld Through Light Pole and Base	

NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: TL
DESIGNED BY: TL
CHECKED BY: MI

REGISTERED PROFESSIONAL: COMMONWEALTH OF MASSACHUSETTS — MICHAEL IGO, CIVIL, No. 46486, REGISTERED PROFESSIONAL ENGINEER

PREPARED BY: BETA — www.BETA-Inc.com

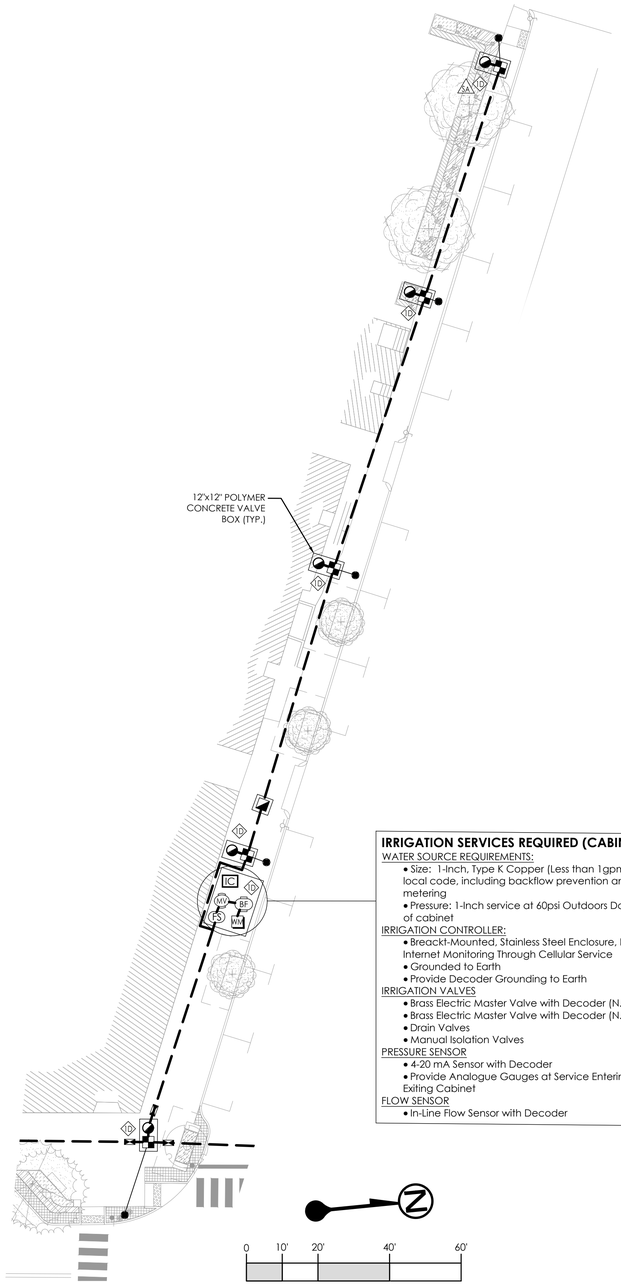
SUBCONSULTANT: Aqueous
AQUEOUS CONSULTANTS, LLC
2 Dundee Park Drive, Suite 301B
Andover, MA 01810
(978) 470-1695

SCALE: SCALE IN FEET: 1"=20' (20 0 20 40)
UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

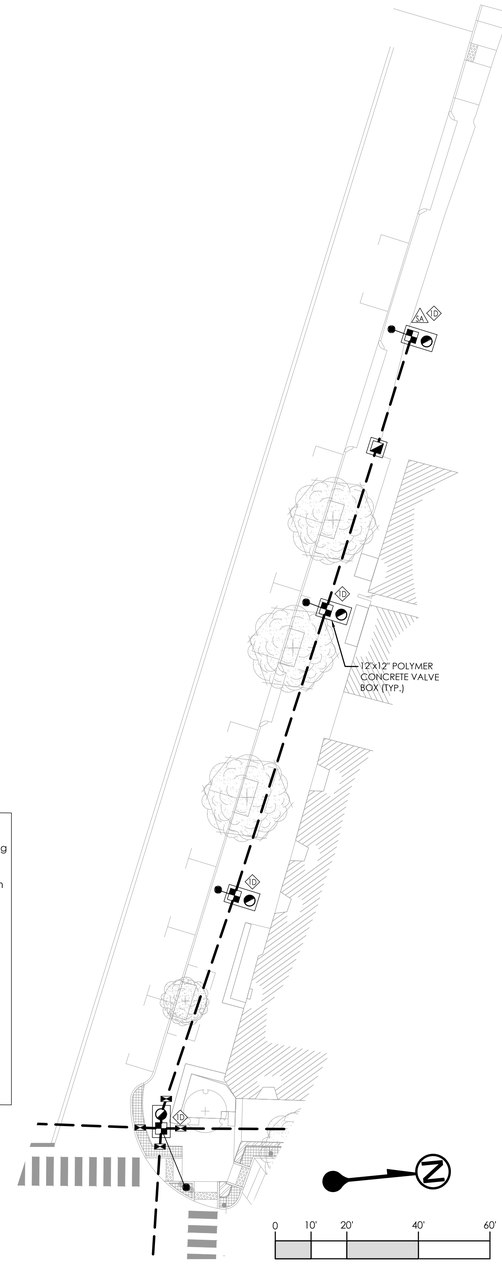
TITLE: HIGH STREET STREETSCAPE
CLINTON, MA
IRRIGATION LAYOUT PLAN

BETA JOB NO. 6182
ISSUE DATE JULY 2020
SHEET NO. IR-1.3

7/15/2020 9:38 AM C:\USERS\TAMORA\DESKTOP\FINISHED PROJECTS\IRRIGATION DESIGN ALTERNATE 1 - STANDARD\IRRIGATION DESIGN ALTERNATE 2.DWG (MONOCHROME.STB)



1 CHURCH STREET SOUTH WEST
Scale 1" = 20'



2 CHURCH STREET NORTH WEST
Scale 1" = 20'

IRRIGATION SERVICES REQUIRED (CABINET)

WATER SOURCE REQUIREMENTS:
- Size: 1-Inch, Type K Copper (Less than 1gpm), meeting local code, including backflow prevention and metering
- Pressure: 1-Inch service at 60psi Outdoors Downstream of cabinet

IRRIGATION CONTROLLER:
- Breackt-Mounted, Stainless Steel Enclosure, Remote Internet Monitoring Through Cellular Service
- Grounded to Earth
- Provide Decoder Grounding to Earth

IRRIGATION VALVES
- Brass Electric Master Valve with Decoder (N.C.)
- Brass Electric Master Valve with Decoder (N.O.)
- Drain Valves
- Manual Isolation Valves

PRESSURE SENSOR
- 4-20 mA Sensor with Decoder
- Provide Analogue Gauges at Service Entering and Exiting Cabinet

FLOW SENSOR
- In-Line Flow Sensor with Decoder

IRRIGATION NOTES

1. SEE IRRIGATION DETAILS AND SPECIFICATIONS FOR ADDITIONAL REQUIRED INFORMATION. SEE PLANS FOR ADDITIONAL INFORMATION.
2. COORDINATE FINAL LOCATION OF IRRIGATION AND POLYMER CONCRETE VALVE BOXES WITH THE ENGINEER.
3. ALL PIPE AND VALVE LOCATIONS ARE DIAGRAMMATIC FOR CLARITY: CONTRACTOR SHALL FIELD VERIFY.
4. SPECIFIED VALVE BOX LOCATIONS AND COLORS SHALL BE APPROVED BY THE ENGINEER.
5. IRRIGATION SYSTEM IS DESIGNED FOR DOMESTIC SUPPLY AT LESS THAN 1GPM. SYSTEM TO PRODUCE 60-PSI DYNAMIC PRESSURE MINIMUM. CONTRACTOR SHALL TEST DYNAMIC PRESSURE BEFORE STARTING WORK AND REPORT ANY DEVIATION TO THE OWNER'S REPRESENTATIVE BEFORE CONTINUING.
6. INSTALL NEW CONTROLLER IN ENCLOSURE AS LOCATED APPROXIMATELY ON PLANS, AS DIRECTED BY OWNER'S REPRESENTATIVE. HARD WIRE TO 120 VOLT, DEDICATED 20-AMP CIRCUIT, POWER SUPPLY USING LICENSED ELECTRICIAN.
7. COORDINATE WITH ELECTRICAL CONTRACTOR TO PROVIDE MOCKUP OF PROPOSED LIGHT POLE IRRIGATION SYSTEM.
8. GROUND IRRIGATION CONTROLLER TO EARTH. COORDINATE WITH SITE ELECTRICAL CONTRACTOR AND VERIFY UNDERGROUND UTILITIES.
9. COORDINATE LOCATION OF ALL EXISTING AND FUTURE UTILITIES ON SITE, CONTACT PROPER AUTHORITIES AND UTILITY COMPANIES BEFORE THE START OF WORK.
10. FLUSH ALL LATERAL LINES BEFORE INSTALLING DRIP IRRIGATION.
11. CONTRACTOR MUST SUBMIT PRODUCT CUT SHEETS AS PER THE WRITTEN SPECIFICATIONS TO THE ENGINEER FOR APPROVAL PRIOR TO ORDERING MATERIAL AND BEGINNING WORK.
12. MATERIAL SUBSTITUTIONS WHICH VARY FROM THE SPECIFIED PRODUCTS MUST BE SUBMITTED TO THE ENGINEER FOR APPROVAL AS PART OF THE SUBMITTAL PROCESS.
13. ONCE APPROVED SUBMITTALS HAVE BEEN RETURNED TO THE CONTRACTOR, WORK MAY BEGIN. OWNER'S REPRESENTATIVE MUST BE NOTIFIED 7 DAYS IN ADVANCE OF THE START OF WORK TO COORDINATE ON-SITE SUPERVISION AND ADMINISTRATION.

IRRIGATION MATERIAL LIST

SYMBOL	MANUFACTURER/MODEL	DETAIL # (IR-2.0,2.1)
	1-Inch Drip Control Zone Kit (Filter, PR)	7,10
	Multi-Outlet Emitter with 1/4-Inch Drip Tubing	
	Light Pole with Hanging Basket	12
	HDPE Ball Valve in Polymer Concrete Valve Box	8
	Quick Coupling Valve in Polymer Concrete Valve Box	6
D	1-Station Decoder	2,7
IC	Baseline BaseStation 3200 with Cellular Modem	1,5
WM	Water Meter	1
BF	RPZ Backflow Preventer	
MV	1-Inch Master Valves (N.O. & N.C.)	
FS	1-Inch Flow Sensor and Pressure Sensor	
	Irrigation Lateral Line: 1-Inch Fused HDPE	9
	Irrigation Mainline: 1-Inch Fused HDPE and Valve Wire Conduit	
	Pipe Sleeve: PVC SCH 80 Solvent Weld Through Light Pole and Base	

NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: TL
DESIGNED BY: TL
CHECKED BY: MI

REGISTERED PROFESSIONAL: COMMONWEALTH OF MASSACHUSETTS MICHAEL IGO CIVIL No. 46486 REGISTERED PROFESSIONAL ENGINEER

PREPARED BY: BETA www.BETA-Inc.com

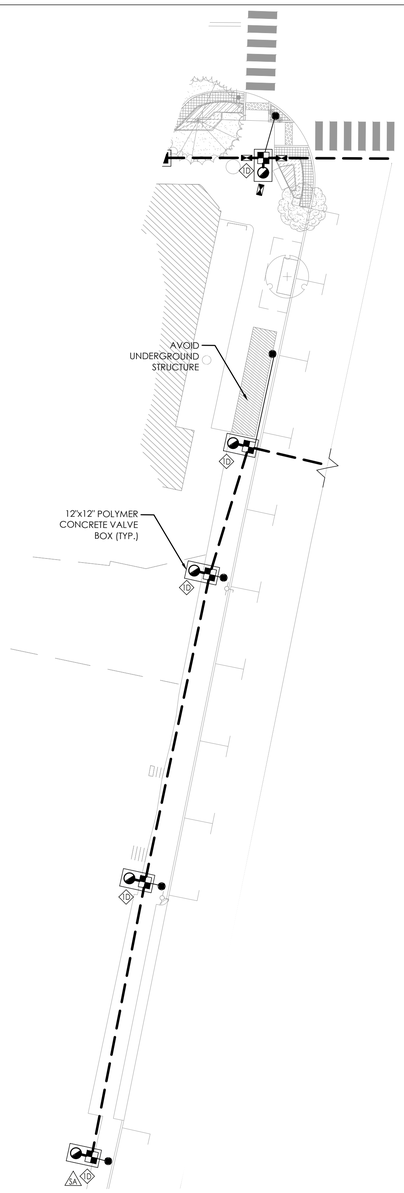
SUBCONSULTANT: Aqueous
AQUEOUS CONSULTANTS, LLC
2 Dundee Park Drive, Suite 301B
Andover, MA 01810
(978) 470-1695

SCALE: SCALE IN FEET: 1"=20' (20 0 20 40)
UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE: HIGH STREET STREETSCAPE
CLINTON, MA
IRRIGATION LAYOUT PLAN

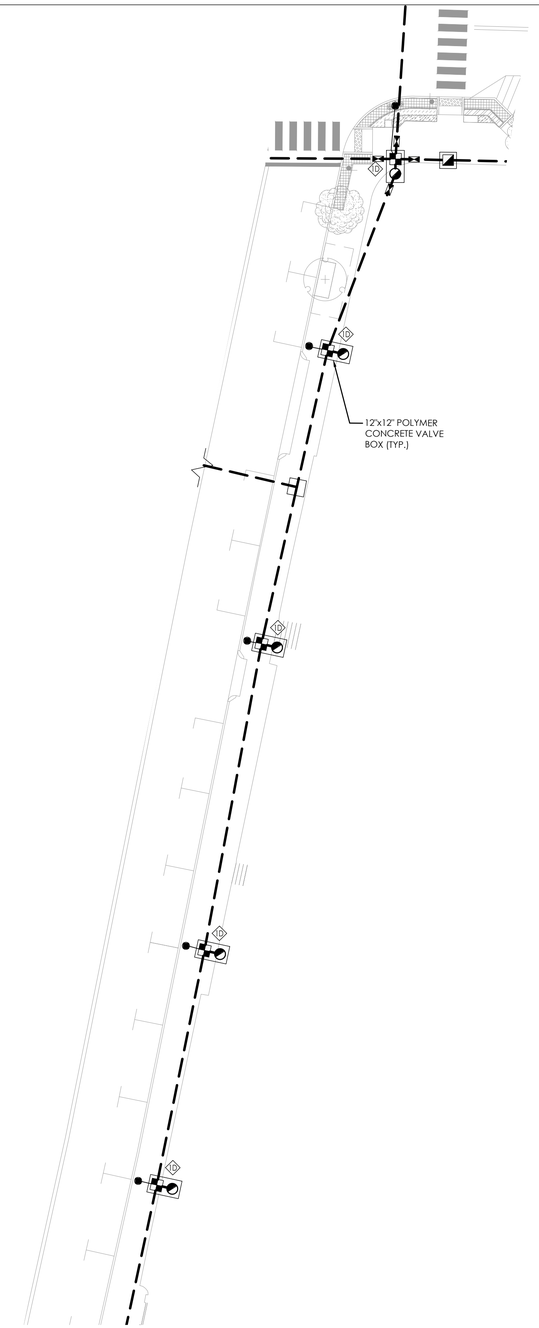
BETA JOB NO. 6182
ISSUE DATE JULY 2020
SHEET NO. IR-1.4

7/15/2020 9:38 AM C:\USERS\TAMORA\DESKTOP\FINISHED PROJECTS\IRRIGATION DESIGN ALTERNATE 1 - STANDARD\IRRIGATION DESIGN ALTERNATE 2.DWG (MONOCHROME.STB)



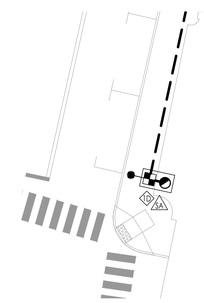
1 CHURCH STREET SOUTH EAST
Scale 1" = 20'

0 10' 20' 40' 60'



2 CHURCH STREET NORTH EAST
Scale 1" = 20'

0 10' 20' 40' 60'



3 CHURCH STREET NORTH EAST
Scale 1" = 20'

0 10' 20' 40' 60'

IRRIGATION NOTES

1. SEE IRRIGATION DETAILS AND SPECIFICATIONS FOR ADDITIONAL REQUIRED INFORMATION. SEE PLANS FOR ADDITIONAL INFORMATION.
2. COORDINATE FINAL LOCATION OF IRRIGATION AND POLYMER CONCRETE VALVE BOXES WITH THE ENGINEER.
3. ALL PIPE AND VALVE LOCATIONS ARE DIAGRAMMATIC FOR CLARITY: CONTRACTOR SHALL FIELD VERIFY.
4. SPECIFIED VALVE BOX LOCATIONS AND COLORS SHALL BE APPROVED BY THE ENGINEER.
5. IRRIGATION SYSTEM IS DESIGNED FOR DOMESTIC SUPPLY AT LESS THAN 1GPM. SYSTEM TO PRODUCE 60-PSI DYNAMIC PRESSURE MINIMUM. CONTRACTOR SHALL TEST DYNAMIC PRESSURE BEFORE STARTING WORK AND REPORT ANY DEVIATION TO THE OWNER'S REPRESENTATIVE BEFORE CONTINUING.
6. INSTALL NEW CONTROLLER IN ENCLOSURE AS LOCATED APPROXIMATELY ON PLANS, AS DIRECTED BY OWNER'S REPRESENTATIVE. HARD WIRE TO 120 VOLT, DEDICATED 20-AMP CIRCUIT, POWER SUPPLY USING LICENSED ELECTRICIAN.
7. COORDINATE WITH ELECTRICAL CONTRACTOR TO PROVIDE MOCKUP OF PROPOSED LIGHT POLE IRRIGATION SYSTEM.
8. GROUND IRRIGATION CONTROLLER TO EARTH. COORDINATE WITH SITE ELECTRICAL CONTRACTOR AND VERIFY UNDERGROUND UTILITIES.
9. COORDINATE LOCATION OF ALL EXISTING AND FUTURE UTILITIES ON SITE, CONTACT PROPER AUTHORITIES AND UTILITY COMPANIES BEFORE THE START OF WORK.
10. FLUSH ALL LATERAL LINES BEFORE INSTALLING DRIP IRRIGATION.
11. CONTRACTOR MUST SUBMIT PRODUCT CUT SHEETS AS PER THE WRITTEN SPECIFICATIONS TO THE ENGINEER FOR APPROVAL PRIOR TO ORDERING MATERIAL AND BEGINNING WORK.
12. MATERIAL SUBSTITUTIONS WHICH VARY FROM THE SPECIFIED PRODUCTS MUST BE SUBMITTED TO THE ENGINEER FOR APPROVAL AS PART OF THE SUBMITTAL PROCESS.
13. ONCE APPROVED SUBMITTALS HAVE BEEN RETURNED TO THE CONTRACTOR, WORK MAY BEGIN. OWNER'S REPRESENTATIVE MUST BE NOTIFIED 7 DAYS IN ADVANCE OF THE START OF WORK TO COORDINATE ON-SITE SUPERVISION AND ADMINISTRATION.

IRRIGATION MATERIAL LIST

SYMBOL	MANUFACTURER/MODEL	DETAIL # (IR-2.0,2.1)
	1-Inch Drip Control Zone Kit (Filter, PR)	7,10
	Multi-Outlet Emitter with 1/4-Inch Drip Tubing	
	Light Pole with Hanging Basket	12
	HDPE Ball Valve in Polymer Concrete Valve Box	8
	Quick Coupling Valve in Polymer Concrete Valve Box	6
D	1-Station Decoder	2,7
IC	Baseline BaseStation 3200 with Cellular Modem	1,5
WM	Water Meter	1
BF	RPZ Backflow Preventer	
MV	1-Inch Master Valves (N.O. & N.C.)	
FS	1-Inch Flow Sensor and Pressure Sensor	
	Irrigation Lateral Line: 1-Inch Fused HDPE	9
	Irrigation Mainline: 1-Inch Fused HDPE and Valve Wire Conduit	
	Pipe Sleeve: PVC SCH 80 Solvent Weld Through Light Pole and Base	

NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: TL
DESIGNED BY: TL
CHECKED BY: MI

REGISTERED PROFESSIONAL: COMMONWEALTH OF MASSACHUSETTS — MICHAEL IGO, CIVIL, No. 46486, REGISTERED PROFESSIONAL ENGINEER

PREPARED BY: BETA — www.BETA-Inc.com

SUBCONSULTANT: Aqueous
AQUEOUS CONSULTANTS, LLC
2 Dundee Park Drive, Suite 301B
Andover, MA 01810
(978) 470-1695

SCALE: SCALE IN FEET: 1"=20' (20 0 20 40)

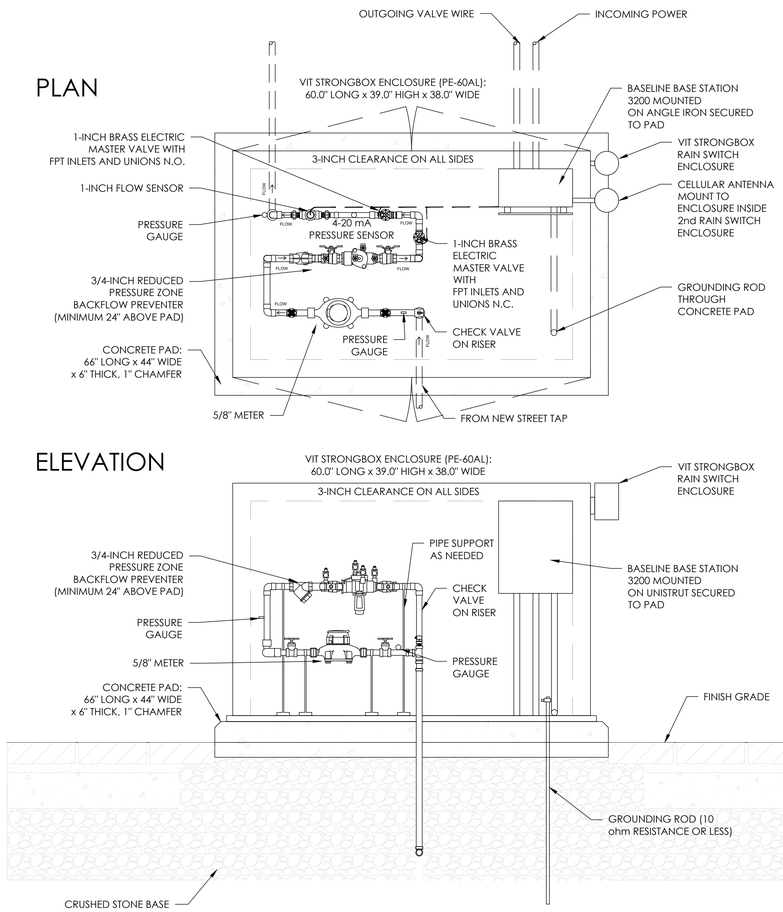
UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE: HIGH STREET STREETSCAPE
CLINTON, MA

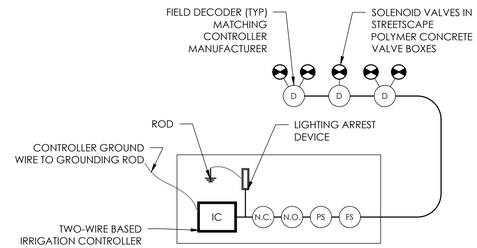
IRRIGATION LAYOUT PLAN

BETA JOB NO. 6182
ISSUE DATE JULY 2020
SHEET NO. IR-1.5

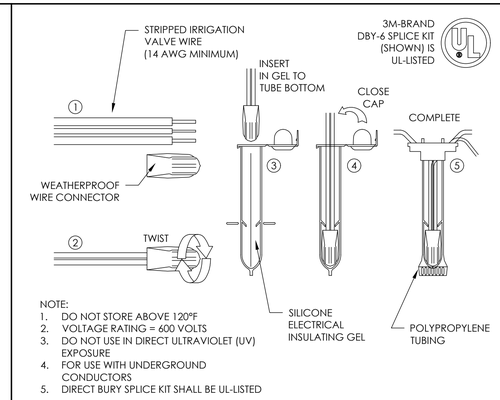
7/15/2020 9:38 AM C:\USERS\TAMORA\DESKTOP\FINISHED PROJECTS\IRRIGATION DESIGN ALTERNATE 1 - STANDARD\IRRIGATION DESIGN ALTERNATE 2.DWG (MONOCHROME.STB)



1 MASTER VALVES, FLOW SENSOR, BACKFLOW, AND FLOW SENSOR IN IRRGATION CABINET
NOT TO SCALE

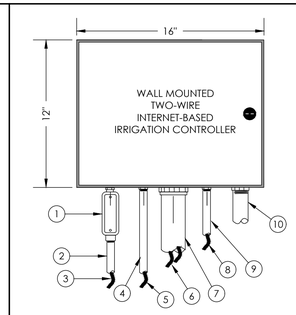


2 SCHEMATIC ELECTRICAL DIAGRAM
NOT TO SCALE



NOTE:
1. DO NOT STORE ABOVE 120°F
2. VOLTAGE RATING = 600 VOLTS
3. DO NOT USE IN DIRECT ULTRAVIOLET (UV) EXPOSURE
4. FOR USE WITH UNDERGROUND CONDUCTORS
5. DIRECT BURY SPLICE KIT SHALL BE UL-LISTED

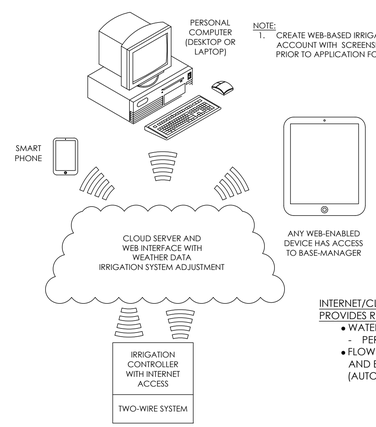
3 600-VOLT DIRECT BURY WIRE SPLICE KIT
NOT TO SCALE



1. JUNCTION BOX
2. 1/2" CONDUIT
3. POWER SUPPLY WIRES
4. 1/2" CONDUIT
5. ETHERNET CABLE
6. IRRIG.WIRES IN CONDUIT TO FIELD
7. 2" CONDUIT
8. GROUNDING WIRE
9. 1/2" CONDUIT
10. 1" CONDUIT FOR ANTENAE CABLE (IF REQ'D)

NOTES:
1. COORDINATE WITH OWNER AND COMMUNICATIONS CONTRACTOR TO PROVIDE DESIRED INTERNET SERVICE (ETHERNET, WIFI, OR CELLULAR DATA)
2. PROPER GROUNDING IS REQUIRED TO ACHIEVE RESISTANCE OF 10 OHMS OR LESS. TIE INTO BUILDING EARTH GROUND.
3. USE CONDUIT PER CONDITIONS OR PER LOCAL CODE.

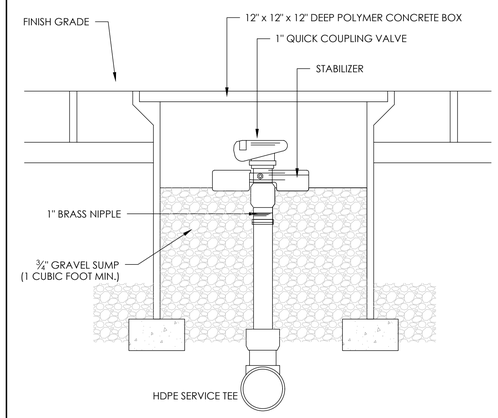
4 IRRIGATION CONTROLLER DETAIL
NOT TO SCALE



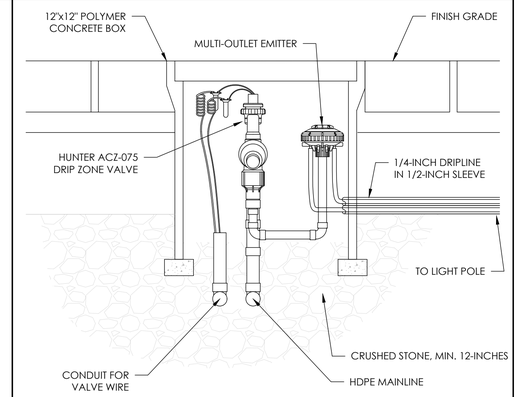
NOTE:
1. CREATE WEB-BASED IRRIGATION MANAGEMENT ACCOUNT WITH SCREENSHOTS OF OPERATION PRIOR TO APPLICATION FOR FINAL PAYMENT

INTERNET/CLOUD-BASED SERVER PROVIDES REPORTING ON:
- WATER CONSUMPTION
  - PER YEAR, PER MONTH
- FLOW SENSING FOR LEAK AND BREAK DETECTION (AUTOMATIC SHUT OFF)

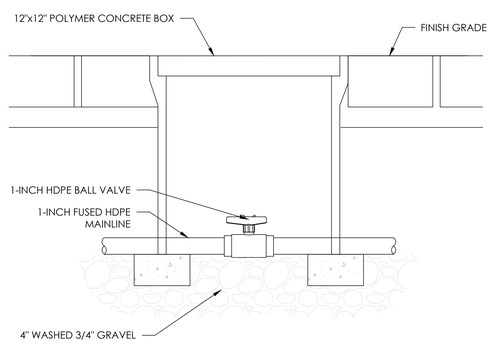
5 INTERNET BASED IRRIGATION CONTROLS
NOT TO SCALE



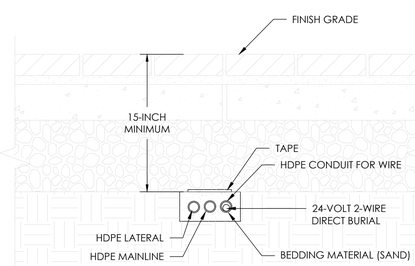
6 QUICK COUPLING VALVE
NOT TO SCALE



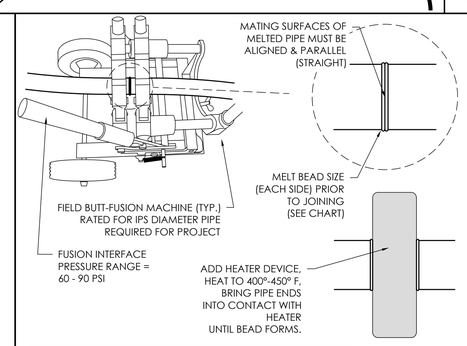
7 DRIP ZONE VALVE KIT with MULTI-OUTLET EMITTER
NOT TO SCALE



8 HDPE BALL VALVE
NOT TO SCALE



9 TRENCH AND WIRE DETAIL
NOT TO SCALE

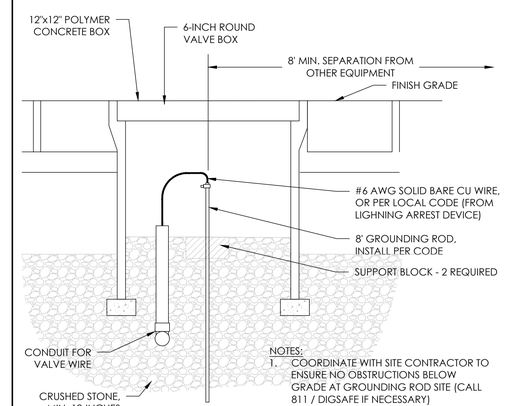


TYPICAL IPS PE4710 PIPE DIMENSIONS - DR11 (200 PSI)					
NOMINAL PIPE DIAMETER	ACTUAL OUTSIDE DIAMETER	MINIMUM WALL THICKNESS	AVERAGE INSIDE DIAMETER	WEIGHT (LBS. / FOOT)	MELT BEAD SIZE
1"	1.182"	0.120"	1.062"	0.642	1/16" (2mm)

ABBREVIATED HDPE BUTT FUSION PROCEDURES
(REFER TO PLASTIC PIPE INSTITUTE TR33 FOR COMPLETE PROCEDURE)

1. SECURE
   CLEAN INSIDE AND OUTSIDE OF PIPE TO BE JOINED WITH CLEAN LINT-FREE CLOTH AND REMOVE ALL FOREIGN MATTER. CLAMP PIPE ENDS TO BUTT-FUSION MACHINE. RE-ROUND PIPES AS NECESSARY.
2. FACE
   FACE PIPE ENDS TO ESTABLISH CLEAN, PARALLEL MATING SURFACES. USING TRIMMING TOOL, DRAW PIPE ENDS TOGETHER UNTIL SHAVING SIZES MATCH ON EACH SIDE. INSPECT FOR DEFORMITIES WITHOUT TOUCHING FACED SURFACES.
3. ALIGN
   DRAW FACED PIPE ENDS TOGETHER. PIPE PROFILES MUST BE ROUNDED AND ALIGNED TO MINIMIZE MIS-MATCHING OF PIPE WALLS. THE FOLLOWING TOLERANCES SHALL BE ADHERED TO FOR ACCEPTABLE ALIGNMENT:
   MAXIMUM GAP = 0.02 inches or 0.5mm
   MAXIMUM WALL OFFSET = 10% of Wall Thickness
4. MELTING PREPARATION
   CLEAN FACED SURFACES WITH GREASE-FREE CLEANER WITH A LINT-FREE CLOTH. DO NOT TOUCH CLEANED SURFACES WITH HANDS.
5. MELT
   USE HEATING TOOLS SPECIFICALLY MADE FOR SIMULTANEOUS HDPE PIPE END HEATING WITH INTERNAL THERMOMETERS AND ALIGNMENT GUIDES. SURFACE TEMPERATURE MUST BE BETWEEN 400°-450° F. BRING BOTH PIPE ENDS INTO CONTACT WITH HEATER, INITIALLY, UNDER MODERATE PRESSURE BRIEFLY, THEN RELEASED ONCE CONTACT ESTABLISHED. WHEN PROPER BEAD SIZE HAS BEEN ACHIEVED, REMOVE HEATER AND JOIN PIPE
6. JOINING
   QUICKLY INSPECT PIPE AFTER HEATER IS REMOVED. START OVER IF CONCAVE OR IRREGULAR MELT SURFACES OCCUR. IF ACCEPTABLE, IMMEDIATELY DRAW MOLTEN PIPE ENDS TOGEHER WITH SUFFICIENT FUSION FORCE (60 - 90 PSI) TO FORM A DOUBLE ROLLBACK BEAD AGAINST THE PIPE WALL.
7. HOLD
   HOLD THE JOINT IMMOBILE UNDER FUSION FORCE UNTIL THE JOINT HAS COOLED ADEQUATELY TO DEVELOP STRENGTH. ALLOW PROPER COOLING TIME BEFORE REMOVING CLAMPS. FUSION FORCE SHOULD BE HELD BETWEEN PIPE ENDS FOR APPROXIMATELY 30 - 90 SECONDS PER INCH OF PIPE DIAMETER. AVOID PULLING, INSTALLATION OR ROUGH HANDLING FOR AN ADDITIONAL 30 MINUTES AFTER COOLING.
8. INSPECTION
   CHECK AND COMPARE JOINT AGAINST MANUFACTURER'S RECOMMENDED APPEARANCE GUIDELINES. VISUALLY UNACCEPTABLE JOINTS SHOULD BE CUT OUT AND RE-FUSED USING THE CORRECT PROCEDURE.
9. BEAD REMOVAL
   WHERE NECESSARY, REMOVE EXTERNAL BEADS WITH MANUFACTURER RECOMMENDED TOOLS. CHECK, BEND, AND TWIST REMOVED BEAD. BEADS THAT RIP, TEAR, OR KINK SHALL BE INDICATIVE OF A POOR JOINT AND PROCESS SHALL BE RESTARTED.

10 HDPE PIPE INSTALLATION
NOT TO SCALE



NOTES:
1. COORDINATE WITH SITE CONTRACTOR TO ENSURE NO OBSTRUCTIONS BELOW GRADE AT GROUNDING ROD SITE (CALL 811 / DIGSAFE IF NECESSARY)

11 DECODED GROUNDING INSTALLATION DETAIL
NOT TO SCALE

NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: TL
DESIGNED BY: TL
CHECKED BY: MI

REGISTERED PROFESSIONAL: COMMONWEALTH OF MASSACHUSETTS — MICHAEL IGO, CIVIL, No. 46486, REGISTERED PROFESSIONAL ENGINEER

PREPARED BY: BETA — www.BETA-Inc.com

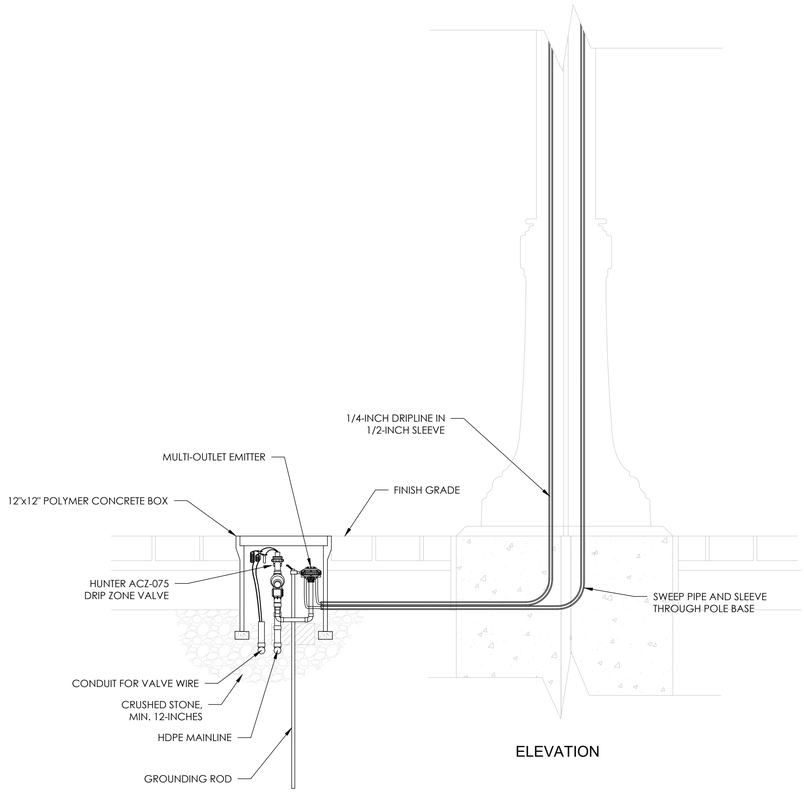
SUBCONSULTANT: Aqueous
AQUEOUS CONSULTANTS, LLC
2 Dundee Park Drive, Suite 301B
Andover, MA 01810
(978) 470-1695

SCALE: SCALE IN FEET: 1"=20' (20 0 20 40)
UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

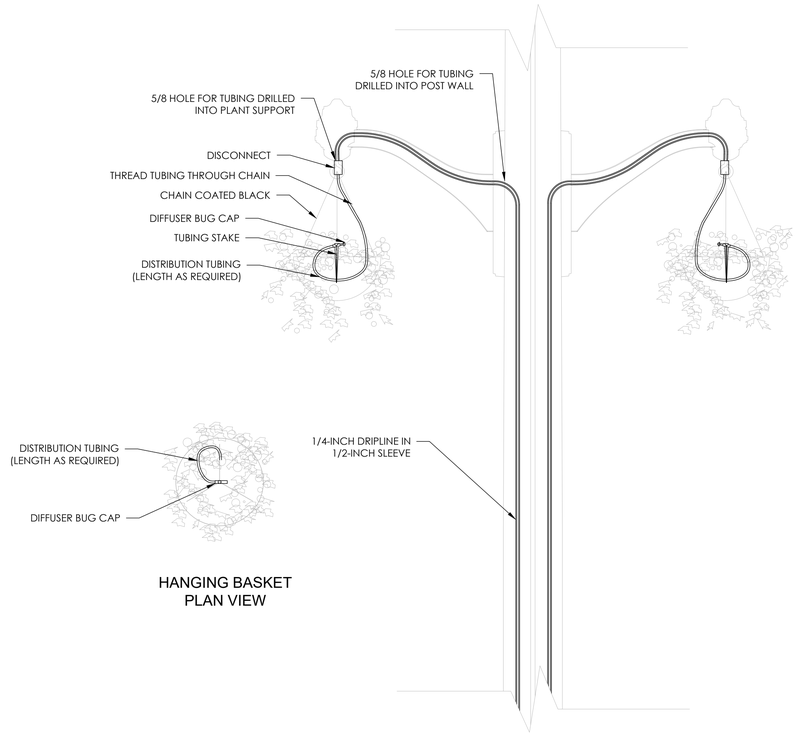
TITLE
HIGH STREET STREETSCAPE
CLINTON, MA
IRRIGATION DETAILS

BETA JOB NO. 6182
ISSUE DATE JULY 2020
SHEET NO. IR-2.0

7/15/2020 9:38 AM C:\USERS\TAMORA\DESKTOP\FINISHED PROJECTS\IRRIGATION DESIGN ALTERNATE 1 - STANDARD\IRRIGATION DESIGN ALTERNATE 2.DWG (MONOCHROME.STB)



ELEVATION



HANGING BASKET
PLAN VIEW

12 LAMP POST IRRIGATION DETAIL
NOT TO SCALE

NUMBER	DATE	MADE BY	CHECKED BY	REVISIONS

DRAWN BY: TL
DESIGNED BY: TL
CHECKED BY: MI

REGISTERED PROFESSIONAL: COMMONWEALTH OF MASSACHUSETTS — MICHAEL IGO, CIVIL, No. 46486, REGISTERED PROFESSIONAL ENGINEER

PREPARED BY: BETA — www.BETA-Inc.com

SUBCONSULTANT: Aqueous
AQUEOUS CONSULTANTS, LLC
2 Dundee Park Drive, Suite 301B
Andover, MA 01810
(978) 470-1695

SCALE: SCALE IN FEET: 1"=20' (20 0 20 40)
UNLESS OTHERWISE NOTED OR CHANGED BY REPRODUCTION

TITLE: HIGH STREET STREETSCAPE
CLINTON, MA

IRRIGATION DETAILS

BETA JOB NO. 6182
ISSUE DATE JULY 2020
SHEET NO. IR-2.1

7/15/2020 9:38 AM C:\USERS\TAMORA\DESKTOP\FINISHED PROJECTS\IRRIGATION DESIGN ALTERNATE 1 - STANDARD\IRRIGATION DESIGN ALTERNATE 2.DWG (MONOCHROME.STB)